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THE STORY OF THE EXPOSITION

FRANK MORTON TODD

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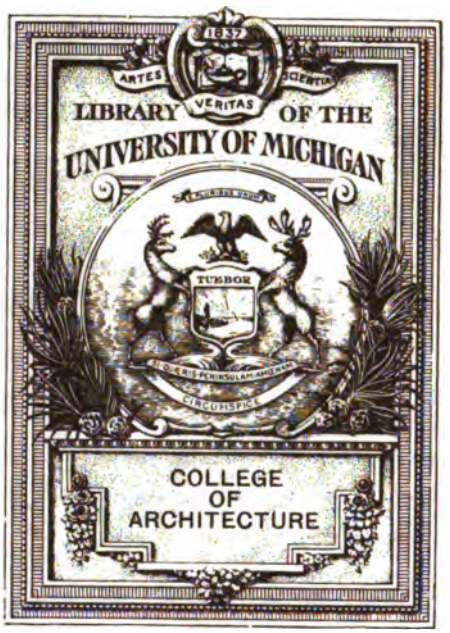

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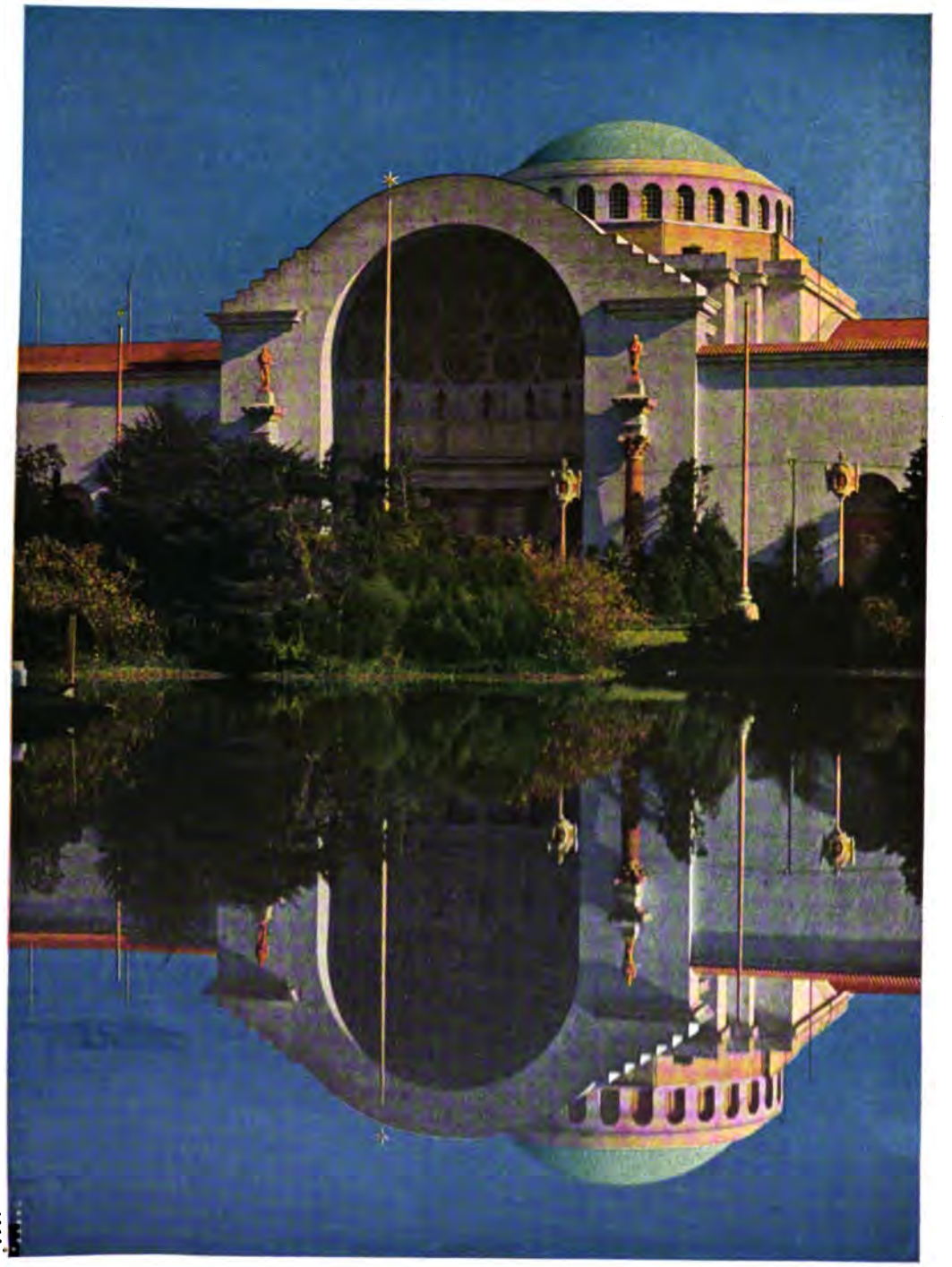

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THE MIRROR

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THE STORY OF THE EXPOSITION

BEING THE OFFICIAL HISTORY OF THE INTERNATIONAL CELEBRATION HELD AT SAN FRANCISCO IN 1915 TO COMMEMORATE THE DISCOVERY OF THE PACIFIC OCEAN AND THE CONSTRUCTION OF THE PANAMA CANAL

BY
FRANK MORTON TODD

WITH 600 ILLUSTRATIONS, INCLUDING 61 PLATES IN COLOR

IN FIVE VOLUMES
VOLUME FIVE

PUBLISHED FOR
THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION COMPANY

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THE STORY OF THE EXPOSITION

CHAPTER I

CONGRESSES, CONFERENCES, CONVENTIONS

THERE is something in the nature of an international exposition that refuses to be satisfied with merely material exhibits. If corporeal exhibits, why not incorporeal? The job is only half done when you show what men are manufacturing. You must go ahead and show what they are thinking. To represent what they have to sell to one another isn't enough. In this twentieth century of ideals and idealism you must show what they mean to do for one another.

Religion, as expressed in the World's Parliament of Religions, was the keynote of the conventions at the Columbian Exposition; Learning, exemplified in the World's Congress of Arts and Sciences, of the St. Louis Exposition eleven years later. Those Congresses meant Disposition, and Power. The Exposition at San Francisco had a strong utilitarian character, and it took these two themes, Religion and Learning, and sought to consolidate them and make them real and give them practical application to human life, through Service.

Underlying Principle

This was the core and spine of that great series of congresses, conferences, and conventions that met at San Francisco and vicinity in 1915. It was the theme of thousands of letters of invitation to organizations all over the world. There was no single large and conspicuous gathering, dominating all the rest, such as the Parliament of Religions at Chicago, because the war disrupted plans for the greatest gathering of the sort ever held; but through the majority of the subjects discussed and expounded at the Panama-Pacific International Exposition, whether by the Mt. Hamilton astronomer and the New York mathematician pointing out the human values of their researches, or the enthusiastic young New Orleans dentist telling his fellow practitioners about the new treatment for *pyorrhea alveolaris*, ran a consideration of the question, what can men do for men, and how can the sciences help them?

The thing that emerged noticeably from thousands of papers and ad-

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dresses and debates, was the test of utility. That accorded with the spirit of the times, which the Exposition expressed. Yet this underlying idea in the minds of the management, reflected in the responses to its invitations and the utterances of the delegates, its guests, was not permitted to have a restrictive effect. The Exposition regarded itself as a world forum, and in a spirit of the broadest catholicity all organizations were invited to participate without regard to race, color, creed, or religious, political, fraternal, or other affiliation.

A satirical person some centuries back noticed that it is one thing to "call spirits from the vasty deep," and quite another to have them "come when you do call them." Invitations, great ideas, fine themes are not enough. People may not respond. There must be practice here, as well as good intention. If you are going to have these incorporeal exhibits, the congresses, conferences, and conventions, in effective number, you have to go after them and get them. And in this instance an unfavorable phase of the problem of getting them was, curiously enough, the fact that too many of the scientific and philosophical gentlemen throughout the nation and the world seemed to have made up their minds that San Francisco would be a good city to avoid during the pressure and confusion and counter-attractions of its Exposition year. On July 1, 1912, exactly ten gatherings had been scheduled to meet at San Francisco in 1915, notwithstanding much vigorous publicity and some months of hard work on the part of the Manager of the Bureau of Conventions and Societies. An exposition is not, it is true, a quiet cloister inviting meditation in an academic calm; it is stressful as a steel bridge with an Overland Flyer thundering across it. Yet good, vigorous work, with the ideal of Service back of it, brought them at last. Although it took the balance of the year 1912 to get 62 more gatherings, the number of conventions held in San Francisco or vicinity, under the auspices of the Exposition and during the Exposition season, was more than double the number held at the St. Louis Exposition, and nearly five times as many as were held at Chicago.

Feared to Come

It was a world's record: 928. Hardly a day of the Exposition season passed without a convention, and sometimes as many as forty were in session on the same day. The average was ten. If the rate had been a session a day it would have taken 2,927 days to hold them all, or eight years and one week, and they would have had to meet Sundays and holidays. It is estimated that the 5,854 half-day sessions were attended by a total of 1,756,000 people.

Taking them by groups, the educational group was the largest, with 172 separate gatherings. Two hundred and thirty-two California organiza-

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GEORGE W. KELHAM, ARCHITECT

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A CORRIDOR ENTRANCE

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tions met, in all, or 25 per cent of the total. And of the entire list, 114 conventions were held by women, a remarkable showing of the extent to which women had been organizing in their own particular fields of interest in the few years preceding 1915. There were many college and university alumni reunions, as well as college fraternity conventions, and there were a great many reunions of organized families, for it was known to the head of the Bureau of Congresses that some 200 families in the United States are organized and hold annual gatherings, usually near the old homestead. An amendment to the Political Code of California, secured at the legislative session just preceding the Exposition, made it possible for 33 Teachers' Institutes to be held on the grounds.

Women Organising

No other exposition ever made such preparations to care for its conventions. Halls were furnished, free. Festival Hall cost about $277,000, and was much used. Then there was Congress Hall, in the Live Stock section, and there was the California Building, and some meetings were held in the Y. W. C. A. Building and the Inside Inn. But the Exposition Auditorium, in the Civic Center of San Francisco, was built to give halls to the conferences that should meet at San Francisco for the year, not only without rent but even without the charge of an entrance fee into the grounds. Some of the conventions were accompanied by little expositions of their own, and for these, such as the American Medical Association and the Dental Congress, the main hall of the Auditorium Building, 190 feet square, offered grand space. Free halls were the only subsidy offered, nor was any money paid any organization member for promotion. It was necessary to rent outside halls but four times.

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CHAPTER II

THE MARKET PLACE OF IDEAS

NEVER in a like period did one city see so many and such diversified learned gatherings within its boundaries as those that met at San Francisco in connection with the Exposition. Meetings went on as in some great conclave of college faculties. Seventy-three congresses, conferences, and conventions were held in a single week. Few held single sessions. Most of them met for days and in several sections. The various meetings of the National Education Association ran for thirteen days. The World's Insurance Congress sat for two weeks. During the height of the season 14 or 15 conventions would hold 35 or 40 meetings in a single day—in the different halls of the Exposition Auditorium, in Festival Hall, in the Live Stock Congress Hall, in Native Sons Hall, in Scottish Rite Auditorium, at the Inside Inn, in the Municipal Auditorium in Oakland, in the halls of the two great California universities at Berkeley and Palo Alto, at Asilomar, and at other convenient points; simultaneously, concurrently, all at once; representing every shade of opinion, from the rarefied doctrines of the Mazdaznan Society to the latest practices of the civil engineers.

Surrounded by Meetings

There were congresses of mothers, and dancing masters, and authors, and railway superintendents, and dentists, and descendants of the "Mayflower" immigrants, and members of the Shedd family, and synods of the churches. At one time an anti-tobacco league was demonstrating all the hideousness of the demon nicotine at one end of the Auditorium Building, while at the other end the Rotary Clubs were having their national gathering, and offering fat, black cigars to everyone that entered their hospitable door. Discussions went forward on the humor of the Old Testament and the newest Newthot directions about your aura.

No matter what the cultus, the Exposition welcomed it as long as it kept the peace. It is not too much to believe that the presence of all the delegates, some of them men of the greatest eminence, and the transactions of all these gatherings, glimpsed in the newspapers and discussed in their diversity in the home and on the street, was a tremendous stimulus to the

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intellectual life of the Bay communities. It was an outline review of the subject-matter of modern thought. And although, practically speaking, only subjects of contemporaneous thought and activity were represented, the range of interest was astonishing, as this segregation of gatherings according to topics will indicate:

Agricultural and Horticultural	36
Business and Commercial	75
Educational	172
Fraternal	105
Genealogical	28
Governmental and Civic	69
Greek Letter Societies	55
Historical and Literary	10
Industrial	28
Insurance	43
Labor	21
Live Stock	29
Musical	9
Press	10
Professional	47
Religious	79
Scientific	56
Social Service	56

During most of the season, large weekly schedules of conventions and places of meeting were issued by the Director of Congresses, Mr. James A. Barr, so that delegates and interested visitors could tell where to go.

As we have elsewhere stated, the great Congress of Congresses, which would have crystallized the world of modern organization at one time and place, had to be given over on account of the war—which is a pretty good illustration of the character of war itself. Without that, perhaps the most significant and important gatherings in connection with the Exposition were those of the American Medical Association, the Pacific Coast meeting of the American Association for the Advancement of Science, the Women's Congress of Missions, the International Engineering Congress, the convention of the National Education Association, the International Press Congress, the Panama-Pacific Historical Congress, and the series of events leading up to and running through Insurance Week. None of the others can be said to have been unimportant, inasmuch as no intellectual effort and no sort of commerce in thought can ever be unimportant, but these were probably the largest of the gatherings, and the most valuable. A complete reprint of the discussions and transactions would be illuminating at many dark points, and would fill several rods of book-shelves.

In the Front Rank

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The transactions of the Engineering Congress alone made a dozen volumes. Obviously this narrative cannot, if it is ever to be printed, present them all, and so must confine itself to a rather sketchy treatment of those conferences whose work appeared broadly significant of the state of the arts and perhaps of some practical aspects of thought in the Exposition year.

As to the effect on the Exposition itself, something we may well notice, as this is the Exposition's history, it was found from experience that delegates to conventions entered the grounds from four to six times apiece, and it was estimated that 277 conventions which met in August were responsible for about one million admissions.

Notable Women

The consciousness of the growing importance of the work of women in the twentieth century was reflected in the number of women's gatherings. The 114 state, national, and international women's conventions or congresses, were attended by some of the most eminent women in the world. The subjects of these meetings covered a wide range of topics, including various religions, missions, suffrage, peace, child welfare, social hygiene, social economy, and governmental, fraternal, and professional interests. Such well known leaders attended various gatherings as Mrs. Philip Snowden of London, wife of the labor leader in Parliament; Miss Jane Addams of Hull House, Chicago; Mrs. Carrie Chapman Catt of New York; Mrs. Kate Waller Barrett of the United States Immigration Department; Madam Montessori; Madame Chen Chi, wife of the Chinese Commissioner General of the Exposition; Madam Ali-Kuli Khan; Mrs. William Cummings Story of New York, President of the Daughters of the American Revolution; Mrs. Florence Kelley of New York, General Secretary of the National Consumers' League; Mrs. Ella Flagg Young, Superintendent of Schools of Chicago; Mrs. Phoebe A. Hearst, Mrs. May Wright Sewall of San Francisco, Miss Helen Berg of Denmark, Frau Riga Hellman of Berlin, Mme. A. Emily Napieralski of Poland, Mrs. Isabel S. Shepherd of New York, Mrs. Clara Bewick Colby of Washington, D. C., Mrs. Ida Husted Harper of New York, Mrs. Andreas Hofer Proudfoot of Chicago, Comtesse Dumas of France, and many more.

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ROBERT D. FARQUHAR, ARCHITECT

FOUNTAIN OF ENERGY, AND FESTIVAL HALL

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CHAPTER III

SOCIAL PROGRESS

THE movement for definite human betterment and an advanced social order, with a strengthening of social consciousness and an emphasis of the principles of individual responsibility and the morality of nations, took form in the World's Social Progress Congress which met at the Exposition Auditorium from April 1 to 11 inclusive. The Chairman of the Committee on Arrangements was Bishop William M. Bell of Los Angeles, and he presided at almost all the sessions. Leaders in ethical movements traveled long distances to appear and address the congress, and the addresses ultimately made a 400-page book, covering in the most effective manner a tremendously wide field of possible reform.

The congress was authorized and promoted by the Committee of One Hundred in charge of religious work at the Exposition—a body instituted by the Federal Council of the Churches of Christ in America, with Bishop Edwin H. Hughes of San Francisco at its head, working through the following special committee: Bishop William M. Bell, Chairman; Governor Hiram Johnson, Hon. Richmond P. Hobson, Hon. J. Stitt Wilson, Dr. Benjamin Ide Wheeler, Rev. Hugh W. Gilchrist, Rev. J. A. Geisinger, Rev. J. E. Squires, President John Henry Whyte, Prof. C. S. Gardner, Dr. David Starr Jordan, Bishop Francis J. McConnell, Prof. E. A. Wicher.

Spiritual Organization

The congress resulted in the World's Social Progress Council, a permanent body, which was based upon the following declaration, adopted at a business session:

Resolved:

1. That in our judgment the time is opportune for a permanent organization that shall undertake to develop and carry forward a specific and constructive program in behalf of Social Progress which shall be, please God, as largely as our resources and ability shall make possible, a world-wide coöperative effort.

2. That we proceed to organize The World's Social Progress Council by electing officers to lead us in carrying forward this work, and that we authorize the said officers as an Executive Committee to complete the organization as in their judgment shall be deemed wise and best.

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3. That we authorize a session of the World's Social Progress Council at such time and place in 1916 as the officers or Executive Committee may deem advisable, and also the prosecution of the work of the Council as extensively as shall be found possible, in the United States, Canada, Mexico, and any other country in which the good work in any way may be promoted.

4. That we will duly exalt the principle of individual character and responsibility as the basis for social progress.

5. That we recognize the inevitable reactions of environment on the nature and achievements of human kind, and call attention to the responsibility of society for the securing as nearly as may be, of a favoring environment in so far as it is a matter of human control and such as shall be adapted to the highest efficiency and development of the race.

6. That we are of judgment that the religious organizations together with all other institutions and organizations of civilization should at once identify themselves under a sane and aggressive leadership in behalf of social justice and efficiency in order that every removable human handicap shall be lifted from the back of our common humanity.

7. That a satisfactory definition of, and program for, social progress shall be wrought out in the light of the highest and worthiest ideals known to mankind.

8. That civil government should genuinely serve the cause of social progress by heartily acknowledging the sovereignty of the people and nurturing that sovereignty in constructive activity, international justice, friendliness, and good will.

9. That we will work loyally for permanent peace among men and nations; not merely for absence of strife, but for coöperative and constructive relations based on mutual help and mutual respect.

The grade of the platform addresses was exceptionally high and the pronouncements were replete with constructive ideas. No speaker was invited unless he was accredited by real achievement. Programs suggested for human betterment were sane and assuring. The topics treated were such as "Education and Social Progress," by Dr. Thomas Walter Butcher, President of the Kansas State Normal School at Emporia; "Commercialized Vice," by Dr. Kate Waller Barrett, President of the Florence Crittenton Missions; "Social Incorporation," by John Henry Whyte; "The Movement for Peace," by David Starr Jordan, Chancellor of Stanford University; "'Kultur' as Against Civilization," by Prof. Edward Krehbiel of Stanford; "The Fallacies of War," by Dr. W. T. Foster, President of Reed College, Oregon; "Votes for Women, and Social Progress," by Mrs. Gerberling of the Congressional Union, Washington, D. C.; "The Key to Social Progress," by Prof. Charles S. Gardner of the Southern Baptist Seminary at Louisville, Ky.

Awakened Thought

The general status of education in the United States was thus briefly summed up by Dr. Butcher:

"The present educational unrest in America is due in large measure to an economic change through which we are passing as a result of the disappearance forever of our western lands. An increasing population must have

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an outlet; without it the weak perish; only the strong survive. If our western lands could have lasted another hundred years the economic change through which we are now passing would not have come until the next century.

"Agriculture, as conducted on new land, required no technical training. With our western lands gone, untrained American labor finds no market, and condemnation falls upon the schools. A system of education rarely questioned for a hundred years is assailed by newspaper, magazine, and public speaker because it fails to do what it has never done, provide its product with the means of earning a living. Unconsciously the public is demanding that the schools create a new 'out West.' This will be done through the conversion of the products of the earth into new forms of economic goods. There is no escape from it, we are to become a manufacturing people and the cry for the training of the hand will not cease.

"Most revolts go too far. They become destructive of good as well as of evil. This one threatens to leave little in the school curriculum that does not give training which can be sold for dollars and cents."

After surveying the prospects for trade and vocational schools, Dr. Butcher proceeded to give the school-play faddists this good and tonic swat:

"Much is being made of the play instinct of the child. Systems of education have been worked out by which a child may take his entire school course without performing a single disagreeable task, the assumption being that all of his work may be organized and presented in such a way as to make him really enjoy it. At first glance, such a system would seem to be wanting in nothing, but upon closer examination we are inclined to doubt its efficiency in the development of character. I have never been quite able in my educational creed to get away from a motto which a teacher of mine kept on her blackboard month after month—'Strength is born of struggle.' Strength may be born of other things, but this teacher evidently did not think so, for she never mentioned any source but struggle. As the years have passed, I have found myself agreeing with her. I have observed that the boy whose indulgent parents have made everything easy for him, is a weakling. He really works at nothing. He plays at an occupation until the novelty is gone and then he leaves it. He lives with the woman he marries until her physical beauty begins to wane, and then he deserts her. Duty may be in his vocabulary, but it is not and can never be in his character, for the only way to make duty a part of a man's character is to work it into his life while his character is forming. Patterns are sometimes stamped upon cheap grades of cloth after the cloth is woven, but the patterns in a Persian rug are woven in as the rug is made. Strength

Work and Character

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is born of struggle, and any system of education that leaves the disagreeable wholly out, that has no place for hard work, that fails to teach the unselfishness which the word 'duty' implies, is not only weak, but vicious. I like the definition of education given by Thomas Huxley, 'A training that gives to a man the ability to do the thing he ought to do when it ought to be done, regardless of whether he feels like doing it or not.'"

Prohibition, the movement against the saloon, public ownership of public utilities, taxation, the revival of national religion, all these and many kindred subjects came in for treatment at the hands of sociological experts, making one of the most enlivening of all the interchanges of modern ideas at San Francisco during the year.

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THE "ROMAN WALL," ALONG ADMINISTRATION AVENUE

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CHAPTER IV

THE WOMEN'S CONGRESS OF MISSIONS

THE third largest congress of the Exposition, and its greatest gathering of women, was the Women's Congress of Missions. It brought together delegates from 39 States and eight foreign countries, numbering in all 2,160, a registration exceeded only by those of the National Education Association and the American Medical Association; and its addresses and discussions exhibited the recent progress of Christianity in all parts of the world, from the dawning faith in Korea and India to the darkest corners of the United States. Mormonism and the race problem were illuminated from the experiences of clergymen and social workers; breaches in the world-old barrier of Hindu caste were depicted, and there were accounts of the ways in which human sympathy and hope are slowly dispelling the gloom that overhangs the lives of millions of women in China.

Improving Faiths

The Congress represented organizations with an aggregate membership of four million women, commanding revenues of $8,000,000 annually. It was promoted through the active coöperation of the Council of Women for Home Missions and the Federation of Women's Boards of Foreign Missions of the United States, so that it represented a national movement, in a nation that devotes more money than any other to the extension of Christianity through missionary effort. The President of the Council, Mrs. George B. Coleman, of Boston, and the President of the Federation, Mrs. De Witt Knox, of New York, were in attendance during the entire congress, and shared with Mrs. E. G. Denniston, Chairman of the local committee, and with Mrs. G. B. Smyth, its Vice-Chairman, the labor of presiding. The Central Committee for the United Study of Foreign Missions coöperated with the Council and the Federation to make the congress a success.

And its success was notable in the annals of such activities. The gathering was a source of renewed inspirations and increased courage to those participating. Rev. H. H. Bell said of it: "The spiritual tone moved on a high level. The missionary impact of every session was powerful. The interest, unlike many congresses, was sustained until the end. The influence ex-

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erted, the good done, the inspiration given, the horizons lifted—who can estimate? The results already have reached far beyond the local and the national into the international movements of the Kingdom." The sessions, of which there were three a day, began on June 6 and continued until the 13th, and there were some most interesting preliminaries on three days preceding, consisting of a service of intercession, a business session of the general advisory commission of the Federation, and a luncheon in honor of the officers and leaders of the congress, given by the National Board of the Young Women's Christian Association at the Y. W. C. A. Building in the grounds.

A World Movement

What may be regarded as the dramatic, public opening of the congress was the Pageant of Peace, staged in the Court of Abundance on June 5 by over 500 participants. Here you saw Napoleon turning from the Spirit of Peace and Welcoming the Spirit of War. Then came the mothers of the nations, soldiers and their military music, plains Indians in their war bonnets, sailors from the "Oregon," Japanese and Chinese kindergarten children in their native costumes, students and other types, all working out an impressive drama leading up to race friendship and the ideal of peace, with the utmost impressiveness and solemnity, with the spirit of some sacred observance like that of the players at Oberammergau. Later, a Pageant of Home Missions was enacted at the First Congregational Church in San Francisco and again at the Hearst Greek Theater at Berkeley. This suggested the development of American national life, and portrayed the work of pioneer home missionaries and school teachers.

There was a reception on the afternoon of June 7 at the Fairmont Hotel, attended by over 400 persons, to welcome the officers of the congress, and that evening a special meeting was held with Chinese women and girls at the Presbyterian Mission House, with the Occidental Board as hostesses. There were Oriental refreshments, and there was an Oriental program. The following evening there was an automobile ride through Chinatown, with calls at the Oriental missions. There was a Japanese reception, and a Russian rally in the Russian church, and a Sunday afternoon service for the Persians, in addition to special service in many of the churches. So the cosmopolitanism of San Francisco contributed. At the close of one session the women of the Santa Clara Valley presented those present with over 2,000 corsage bouquets. All these meetings and occasions added to the interest of the congress, but they did much more than that, for they enlisted the interest of women outside mission work, who were brought, through such events, into touch with those leading in the movement.

Meeting of Races

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Then, on June 14, came the grand, closing event, Congress of Missions Day at the Exposition, the crowning celebration of the sessions. The Committee of One Hundred, representing the Federal Council of the Churches of Christ in America, was to open its series of evangelistic meetings in a large tabernacle down town that evening, so that the time itself was an inspiration. Festival Hall and the great organ were put at the disposal of the delegates. They marched to the Hall in procession from the Scott Street entrance, led by a platoon of Exposition Guards, with the Exposition Band. Commissioner Charles Vogelsang presented the Exposition memorial bronze medal to Mrs. Coleman, and a bronze tablet to Rev. H. H. Bell in recognition of the work of the Committee of One Hundred.

From Festival Hall the concourse marched, again with the Guards and the Exposition Band at its head, to the Federal Council's booth in the Palace of Education and Social Economy, where dedicatory exercises were held—exercises that attracted many a visitor in the Palace that otherwise would not have known, among the multifarious interests and diversions of the Exposition, anything about this concerted interdenominational effort of the churches of America. Afterward many of the women of the congress were entertained at a luncheon in the California Building, with Mrs. Sanborn presiding as hostess.

At this congress the heaviest registration from any State was naturally that from California. Then came Pennsylvania, Massachusetts, New York, and Ohio. The churches represented were, in the order of attendance, the Presbyterian, Congregational, Methodist, Baptist, Christian, Lutheran, United Presbyterian, Methodist South, Episcopalian, Christian Science, United Brethren, Friends, Reformed, Roman Catholic, Advent Christian, Moravian, Universalist, Central Union Church of Honolulu, the Japanese Reform Church, The Danish Norwegian, Home of Truth, Christian Alliance, Seventh Day Adventists, and Reorganized Church of Jesus Christ of Latter Day Saints.

Gathering of Creeds

It is impossible to present here all the addresses, inspirational and didactic, that marked the nearly two dozen sessions of the congress. That they were beneficial no one can doubt that appreciated the meaning of an interchange of ideas originating from the observation of cultural conditions in every quarter of the earth. There were inspiring stories of trial and discouragement that resulted in final triumph—such as the early efforts in Korea that received the first hope of success through the work of the medical missionary, Dr. H. N. Allen, who saved the life of the Emperor's nephew; or the case in India where the conversion of one boy led to the conversion of a whole community that had long been refractory to missionary influence.

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There were moving pleas for justice for the colored man in America, and the establishment of right conditions for the foreign immigrant.

The influence of the missions in Alaska formed a most fascinating chapter, and one passage in the address of the Rev. Edward Marsden, a native Alaskan preacher, typified field conditions and results. Although the American missionary movement began about 105 years before the Exposition, it was ten years after the purchase of Alaska before the first American Missionaries went there. Then they started schools and churches, introduced reindeer from Siberia, and worked for every beneficial movement.

Mr. Marsden had associated with him at Saxman a number of native helpers, who under his direction covered a large territory. Ten distinct tribes, speaking different dialects, formed the parish. Formerly these various tribes were hostile to each other and simply to meet was often provocation enough for a battle. Mr. Marsden vividly described this period when he said, "My people were slaves to many things, such as belief in Indian doctors, witchcraft, and other forms of savagery." These various peoples had been "brought nigh by the love of Christ" and were now friends. The speaker made an earnest plea for "opportunity for my people, more schools, to train them in various industries and help them to help themselves." The Alaskans are not wards of the Government as are the Indians in the States.

In the Far North

Mr. Marsden's closing appeal was impressive. "This Congress has a great work—to save the lost. I am very glad to be here to show you that in the Gospel of Jesus Christ any heathen race can be saved. In Alaska we are all fishermen, and the Winter's food depends upon our Summer's work. We have a good big boat with several men and it is a strong boat and goes out into deep water, stays a long time, faces a high wind, comes through a big storm, and after many days when it comes back it has a big catch. You are outfitting your missionaries; if your missionaries are well outfitted and you keep them out where the people are a long time, the work grows, but if they are poorly outfitted they are discouraged, may quit soon, and the work dies."

In these discourses, that world figure of civilization, the missionary, appeared not only as the messenger of a faith, but as an international social pioneer, working to sweep away the barriers of language and of caste that keep apart the nations, and the classes of society. As translators and interpreters alone, their work would have the most striking results in the outlying places of the world. One missionary reported from the Philippines that Silliman Institute, at Mumagetti, a school for boys, 300 miles south of Manila, had opened in 1901 with 13 reluctant pupils, and now had 785 en-

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ADOLPH ALEXANDER WEINMAN, SCULPTOR

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FOUNTAIN OF THE SETTING SUN

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rolled and had had to refuse 300 more for lack of accommodations. The seclusion of women in India was breaking down, the status of women in China was being reformed. So, characterized by the most pronounced internationalism, the work appeared as the great healing agency of a sad old world. Altogether there were few of the congresses of the Exposition that brought more of the tidings of past progress or promised more for the future of mankind.

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CHAPTER V

ADVANCES IN MEDICINE

IN the front rank of important conventions at the Exposition, history must recognize those great gatherings of the foremost medical men of the country, grouped around the meeting of the American Medical Association, and extending through the latter half of June. These meetings filled the hotels of the city with physicians and trained nurses of all the leading schools of medicine. Some of the most eminent men in the world attended. Some sessions were devoted to specialities and some to more general interests, and they included the conventions of nurses' associations and hospital associations, and organizations of physicians for special objects, such as the American Association of Medical Milk Commissions. There were 24 of these conventions, including such significant ones as the Pan-American Medical Congress, an international scientific body of world-wide value, and the Medical Association of the Isthmian Canal Zone. The season of the conferences was called, and probably without exaggeration, "the greatest period of medical conventions in the world's history."

The Exposition management set aside special days in honor of various departments of medical work represented in these meetings—American Society of Tropical Medicine Day, June 16; National Eclectic Medical Day, June 18; Pan-American Medical Congress Day, June 19; American Hospital Association Day, June 22; American Medical Association Day, June 23; Pacific Association of Railway Surgeons' Day, June 25; American School Hygiene Association Day, June 26. June 20 was Public Health Sunday, and from most of the pulpits of the city addresses devoted to the main theme of health and the mission of the physicians were delivered by competent speakers.

The most important of these conventions was, of course, the 66th Annual Congress of the American Medical Association, the largest organization of the sort in the country, embracing 53 subordinate state and territorial bodies, and a fellowship of over 42,000. The registration at San Francisco, by the fifteen different sections into which the work was divided, came to

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2,315. The sessions began with the first meeting of the House of Delegates on June 21, in the Exposition Auditorium, followed next day by the opening general meeting at the Columbia Theater. After that, twelve separate sections met for several days, and the House of Delegates held three more sessions, receiving the reports of the various committees, and transacting the administrative business of the Association.

Scientific Conclave

In the main hall of the Auditorium, commercial and scientific exhibits were maintained where the visitors could supplement the teachings of the rostrum by direct inspection of the latest aids to the healing art: books, charts, drugs, hospital appliances, surgical instruments, and hygienic and prophylactic material, of vital interest to the medical and nursing professions.

The open general meeting at the Columbia Theater on the morning of June 22 saw the installation of the new President of the Association, Dr. William L. Rodman, elected the year before. Addresses of welcome had been made by Mr. Edward Rainey, representing Mayor Rolph, by Dr. Harry M. Sherman, President of the Medical Society of the State of California, and State Commissioner Chester H. Rowell, representing Governor Johnson; and there was a prayer by Bishop William Ford Nichols of San Francisco.

Dr. Rodman's opening address dealt with the prospective work of the Association, covering such matters as the need of a standardization of entrance qualifications to medical colleges; having the curricula of high schools include a year's study of the sciences preparatory to the study of medicine, carrying on the war against quack doctors and fake cures; and increasing the influence of the College of Surgeons, "which was established to protect both the public and the skilled surgeon, and as a protest against the practice of men unfitted by education or training to perform operations."

In his opening address to the House of Delegates, Victor C. Vaughan; M.D., of Ann Arbor, the retiring President of the Association, remarked upon the failure of a good many physicians, even among recent graduates of the best medical schools, to keep abreast of the times, and suggested that it might be possible for the American Medical Association to send clinical teachers to different States to convey the latest and best methods of diagnosis. Many of the laity knew more about preventable diseases than some of the doctors. The Legislature of Michigan placed $100,000 at the disposal of the State Board of Health for the study of tuberculosis in that State, and when a member of the Board wrote to the executive officer of the National Anti-Tuberculosis Association for a man to take charge of the work, three out of four recommended were laymen. It

No Longer Exclusive

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seemed to Dr. Vaughan all wrong if this sort of work had to be entrusted to men that were not educated physicians. The schools offering courses in preventive medicine were not furnishing enough men, and the sanitary engineer and the social worker were supplanting the physician in his own field.

Much attention was given the subject of preventive medicine, and a report on the work of the Council on Pharmacy and Chemistry accounted for the origin of the subject in its modern and scientific aspect. It came from the discovery that most diseases were due to the infection of the body by living organisms that preyed on it and disturbed its normal action. The year 1880 marked the firm establishment of this new conception and the beginning of one of the great periods of medicine. New methods were discovered and bacteriology became a recognized branch of medical science. It became more practicable to prevent disease than to cure it, and the art of preventive medicine was born.

Some sharp battles in the Association's war against quacks and quack remedies were recalled in that part of the report of the Board of Trustees relating to certain lawsuits that never came to trial. The headway of this propaganda was shown, and the propaganda itself was illustrated, in the Association's exhibit in the Palace of Education and Social Economy. The abatement of the evils connected with the exploitation of proprietary medicines had, about ten years before, been made the charge of the Council on Pharmacy and Chemistry, which now reported the condition of the fight. This was a most interesting historical paper, for it went into the origins of the patent medicine business, tracing its rankest development to the years just after the Civil War, when the medical profession was at a rather low standard, and inferior medical schools sprang up like mushrooms to meet what was said to be the demand for physicians in the growing Western and Southern States. In 42 years following the war, 944 new medical journals were founded in this country, and some of them would advertise anything.

"The country doctor no longer took with him in his saddle-bags a few reliable drugs with whose actions and limitations he was familiar, but ready-made mixtures about the composition of which he knew little, and about the therapeutic actions of which he knew less; for all he knew was what was told him by the manufacturer, who in most cases was a layman without knowledge of medicine, pharmacy or chemistry."

The Council had also instituted a Committee on Therapeutic Research, whose findings about the action of drugs formed invaluable contributions to medical knowledge. In some instances, drugs in common use and of the

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RHODODENDRONS

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most respectable standing were proved of no more value than the "bitters" to which our grandfathers used to resort.

The Council was of the opinion that most of the attempts to discover new drugs would result in failure, and that the medical profession in its whole history had found only a score or so of really great ones. Ehrlich had scored about 605 failures on the way to his goal. And failures as well as successes were being capitalized by the unscrupulous. It was only from laboratories free from any relation with manufacturers that real advances could be expected.

The Council on Medical Education reported a gratifying improvement of the matriculation standard in medical colleges, and a significant diminution in the number of these institutions. Both movements were exhibited by charts that predicted fewer and better schools. The sessions of the House of Delegates were largely occupied with matters of administration, abuses within the profession, and interests relating more to the business conditions than the scientific phases of practice. The scientific subjects were the province of the 15 sections, which grew very busy with their specialties: Practice of Medicine; Surgery, General and Abdominal; Laryngology, Otology and Rhinology; Pathology and Physiology; Nervous and Mental Diseases; Dermatology; Preventive Medicine and Public Health; Genito-Urinary Diseases; Hospitals; Orthopedic Surgery; Diseases of Children; Obstetrics, Gynecology, and Abdominal Surgery; Ophthalmology; Pharmacology and Therapeutics; Stomatology. Exhaustive papers were read dealing with all these subjects, which are, of course, too voluminous for reproduction here, and too numerous even to list.

Colleges Improving

The gravest medical problem of the time was that of cancer. People escaped or survived other diseases to fall prey to that, and many died of it that 40 years before would have died earlier, of something else; so that statistically, and actually, it was on the increase. No cure for it but surgery had yet been found, but the encouraging facts were brought out in the report of the Cancer Committee to the House of Delegates that the physicians of the country realized that many early cases could be cured by surgery, and the public had been so educated on the subject that more and more victims sought surgical aid before it was too late. The report on this subject said:

"Your committee, which is also the committee of the Clinical Congress of Surgeons, wishes to express once more its hearty appreciation of the splendid work being done by the American Society for the Control of Cancer. Its funds have been contributed chiefly by the laity, and we would strongly urge the members of the American Medical Association to advise their

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patients to become members of this Association, which has been and is doing so much to disseminate useful knowledge concerning cancer, and is pointing out what may be accomplished by early operation. The Secretary of this committee is Mr. Curtis E. Lakeman, 289 Fourth Avenue, New York. The success of that society is due in large measure to the careful and conscientious work of Mr. Lakeman and to Mrs. Robert G. Mead, Chairman of the Finance Committee, New York, who has been indefatigable in raising the necessary funds. The great interest taken by the laity in the subject of cancer is the most helpful sign that could be wished for."

The dolorous subject was further illuminated on June 22 by the world-famous specialist, Dr. William J. Mayo, of Rochester, Minn., in his paper on "Chronic Gastric Ulcer." Cancer, he said, was neither contagious, hereditary, nor incurable. Within a few years we should know just what it was, and be able to guard against it. Its prevention lay in the removal of the irritation that caused it. Thousands of cures were being accomplished by the knife, and the pessimism concerning its cure was not justified by the facts.

Mayo was followed by Dr. A. J. Ochsner of Chicago, on "The Relation Between Chronic Ulcer and Cancer of the Stomach."

These addresses were read to the section on Surgery, General and Abdominal, and although the section meetings were not ordinarily attended by the general body, such eminent names as Mayo, Ochsner, and William L. Rodman attracted a large audience, which listened with a rare intensity of interest to the discussion that followed.

Wednesday, June 23, was set aside by the Association as Health Conservation Day, in commemoration of the completion of the Panama Canal, and in recognition of the services of the sanitarians whose labors and scientific skill had made that completion possible. The sections held meetings, but the announcement that Mayo and Vaughan and Rodman would lecture brought out a crowd that filled the main hall of the Auditorium. The plan of the occasion was to review the recent services of medicine and surgery and indicate what could be done for the further protection of human health and life. Rodman praised Gen. Gorgas as the idol of his profession and the man without whose labors the Canal could not have been built. Incidentally he discussed typhoid fever and declared there was no longer any excuse for the scourge that had afflicted 90 per cent of the soldiers sent to Cuba. Vaccination against it was just as efficacious as vaccination against small-pox. Of all our troops sent to Mexico only one had typhoid, and he was a teamster that had not been vaccinated against it.

Triumph of Prevention

Dr. Vaughan called attention to the lengthening of human life from an

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average of 20 years in the fifteenth and sixteenth centuries, to 42 in our age. In 1880, he said, the average length of life had been 30. Yet if San Francisco should let a month go by without due attention to sanitary laws there would be an epidemic that would sweep the Coast.

Then Mayo took the platform for a sort of popular rather than technical discourse, inasmuch as the meeting was a public one. The eagerness to see and hear the great scientist and healer was intense, a real relief from the public eagerness to see fighters and athletes and baseball stars. He spoke of cancer again. It was increasing, he said, not from any fault in surgery or medicine but because twice as many people reached the cancerous age as the number of those that reached it a few years ago. One woman in nine would have it, one man in 13. It was killing 75,000 people a year in the United States. Yet in its formative stages it was easily curable by surgery. Contrary to general opinion it was not hereditary, nor was it transferable from one person to another, although it could be transplanted from one part of the body to another part of the same body. There were no especial cancer localities. One in New York that was thought to be such proved on examination to be inhabited largely by old people, the younger ones having all migrated to the West, so the proportion of cases was necessarily higher. It was entirely within the realms of possibility that even without knowing the cause of cancer we should soon have a remedy that would prevent its development.

Why Cancer Increases

Other specialists treated various kinds of contagious disease, furnishing the public represented at these meetings with much needed guidance in methods of prevention and care.

Then there were excursions for the visitors, a golf tournament, banquets, smokers, social gatherings of the different sections, and many other delightful entertainments. On the evening of the 23rd there was a reception and ball for them in the California Building, with a presentation of an Exposition memorial bronze medal. Dr. Emmet Rixford presided over the formal ceremonies.

The "Journal of the American Medical Association" said of the San Francisco meeting:

"The members of the local profession exerted themselves with true California hospitality to provide for the comfort and pleasure of the visitors, and are to be congratulated on their conduct of the convention. The San Francisco session was a great success."

The Convention closed with the election of Dr. Rupert Blue, head of the United States Public Health Service, as President of the Association for the year following the incumbency of Dr. Rodman, inasmuch as it is the law of

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the organization to elect officers a year in advance. The other officers elected at this meeting were: First Vice-President, Dr. Albert Vanderveer, Albany, New York; Second Vice-President, Dr. George B. Evans, Dayton, Ohio; Third Vice-President, Dr. Donald Campbell, Butte, Montana; Fourth Vice-President, Dr. Herbert C. Moffitt, San Francisco; Secretary, Dr. Alexander R. Craig, Chicago, Illinois; Treasurer, Dr. William Allen Pusey, Chicago, Illinois; Trustees, Dr. M. L. Harris, Chicago, Dr. W. T. Councilman, Boston, Dr. Thomas McDavitt, St. Paul. All the new trustees succeeded themselves.

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PANSIES

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CHAPTER VI

PLAGUE, LEPROSY, TYPHOID

THE annexation of Porto Rico, Guam, and the Philippines after the Spanish war was accompanied by much dolorous and confident prophecy of the invasion of this country by all the pathological tribulations of the Tropics. We were to have leprosy, elephantiasis, yellow fever, bubonic plague, and every known itis and emia we had theretofore lacked.

To a slight degree the prophets were justified, but as to the measure of our woes they failed to calculate our resistance; lost sight of the fact that every danger stimulates defensive effort. Within five years after the Spanish war a group of physicians at Philadelphia had organized the American Society of Tropical Medicine, to encourage research into the causes and spread of tropical disease, collect and record the facts, and disseminate the information obtained. This society held its twelfth annual meeting at the Panama-Pacific International Exposition; appropriately enough, inasmuch as the Canal had been accomplished by virtue of the advances made in this department of medical science. The sessions occurred June 14 to 16 inclusive.

Prompt Defense

Papers were read and discussion was contributed by some very eminent men—such as Dr. Rupert Blue, Surgeon General of the United States Public Health Service, Dr. W. Colby Rucker, Senior Surgeon United States Public Health Service, and many others.

To a nation that has so lately gone into the management of tropical dependencies, with which commerce is certain to increase, all the papers at this congress were matters of significance; and they were especially important to San Francisco because of its relations with the Tropics and the Orient. Aside from that, the facts presented marked tremendous strides in the advance of Man, reflected nowhere better than in this field of applied science. Especially pertinent was the paper of Dr. W. C. Billings, of Angel Island, on "The Exclusion of Tropical Diseases by Means of Immigration Inspections." This was presented at the opening session, at the Inside Inn. Dr. George W. McCoy of Kalawao, Hawaii, described "The Present Status

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of Our Knowledge of Leprosy"; and there were several other addresses, of interest to the organization rather than the public.

The sessions of the second day were held at the University of California, at Berkeley, and brought forth papers and discussions on the following subjects among others: "Modes of Transmission and Methods of Control of Plague," by Dr. Rupert Blue, head of the United States Public Health Service; "Experiences in the Treatment of Plague in the City of New Orleans," by Dr. W. H. Seemann of that city; "Yellow Fever Control, with Special Reference to Conditions at Iquitos, Peru," by Dr. G. M. Converse of San Francisco; "Observations on Anti-typhoid Vaccination," by Dr. Henry J. Nichols, Captain in the Medical Corps, U. S. A.; "A Few Cases of Blackwater Fever, and of a Peculiar Enterocolitis," by Dr. Elmer F. Otis, of La Romana, Dominican Republic; and there was a paper on the "Pajaroello Tick," by Prof. W. B. Herms of Berkeley.

The sessions of the third day were held in the Exposition Auditorium and the Inside Inn, when Dr. K. F. Meyer of San Francisco, Second Vice-President of the American Society of Tropical Medicine, read a paper on "Epizoötic Lymphangitis and Sporotrichosis," and Dr. Wilbur A. Sawyer of Berkeley presented "An Epidemiological Study of Poliomyelitis."

Dr. Milton J. Rosenau, of Boston, was elected President, and Dr. John M. Swan, of Rochester, Secretary and Treasurer. Commissioner Vogelsang, on behalf of the President and Directors of the Exposition, presented the society with a memorial medal.

The position of medicine in general, in the modern world, was stated by Dr. Nichols in his paper on "The Influence of the Study of Tropical Diseases on Medicine," delivered at the fifth session.

There had been a time, he said, when diseases were supposed to be fixed, and to have no intelligible relation to other phenomena. They were beginning to appear in an evolutionary perspective. A modern volume on the practice of medicine, instead of beginning with typhoid fever would be likely to begin with "Diseases Caused by Animal Parasites." The movement had reached its practical climax in the Canal Zone, where it was said that if a man would stay there and behave himself, he would, barring accident, keep healthy, but if he went back to the States he was likely to pick up some infection and bring it back to contaminate others.

Growth of a Science

As to the accomplishments of tropical medicine as a particular branch of the science, some interesting history was presented by Dr. Swan, Secretary of the Society. Tropical medicine had been recognized as a proper subdivision of the general science about 1898, which was about the time the

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United States began to be interested in tropical affairs. Within five or six years separate courses in the subject were being given in the American medical schools, and in some cases independent departments organized, for the investigation of its unsolved problems.

The pioneer in the field of demonstrating the agency of insects in propagating and spreading tropical diseases was, undoubtedly, according to Dr. Swan, Sir Patrick Manson. Dr. Swan paid magnificent tribute to the work of Dr. Azel Ames in Porto Rico, where, although beyond the age at which most men feel called upon to perform further military duty, he had volunteered, and where he stamped out almost unaided a small-pox epidemic that had produced 3,000 cases in a short while. Dr. Ames organized a farm for the production of vaccine, vaccinated or caused to be vaccinated 860,000 people in about five months, and brought down the small-pox death rate in Porto Rico from 621 per annum to two.

A breast of Occasions

Dr. Ernest Linwood Walker had found that it is not *anopheles rosii* but *anopheles febrifer* that spreads malaria, and concluded that the efforts of sanitarians should be directed to the shaded running streams rather than to the rice fields and open *esteros*.

The age-old mystery of leprosy received fresh treatment at the hands of Dr. George W. McCoy, of Kalawao, Hawaii, who regretted that it was not possible to record some conspicuous advance that would hold forth promise of recovery to sufferers, or throw light on the problem of transmission. More than fifty attempts had been made to inoculate human beings with leprosy, and there was no clear instance of success, so the natural method of transmission was a mystery still. Results had been negative in the lower animals as well. The theory of the relation of the disease to fish-eating had little or no support. Norway rats have a leprosy that is confined to them.

Progress was marked, however, in relation to the treatment as well as the prevention of typhoid fever. Prevention by vaccination had achieved a great success in the few years immediately preceding the Exposition. The paper read before the American Society of Tropical Medicine by Dr. Frederick P. Gay, of Berkeley, California, on "The Treatment of Typhoid Fever by Intravenous Injections of Polyvalent Sensitized Typhoid Vaccine Sediment," indicated, in scientifically conservative terms, a great advance in treatment after the disease is contracted. Dr. Gay said:

Typhoid Vaccination

"The typhoid vaccine we have used in the treatment of these cases of typhoid fever is one that has already been advocated for the prophylactic immunization of human beings by Gay and Claypole. It consists of the ground sediment of a mixed polyvalent vaccine that has been sensitized by an

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antityphoid serum and then killed and precipitated by alcohol. From this ground culture the endotoxins are extracted by carbolated saline solution and the remaining sediment of bacterial bodies alone used.

"For therapeutic purposes we have given doses intravenously ranging from 1/100 to 1/10 mg., most of the doses being between 1/50 and 1/25 mg. (150 to 300 million bacteria). . . . In 66 per cent of the cases a distinct benefit was obtained, as shown by lowered temperature, disappearance or amelioration of subjective symptoms, and an apparently accelerated recovery. In 41.5 per cent of this 66 per cent, the recovery was of an abortive form, with a critical fall of temperature and a permanent normal temperature established within a few days. This permanent normal temperature was reached on an average seven days after beginning treatment in these cases. There remains, however, 34 per cent of cases which are classified as relatively unaffected."

Keeping it Clean

Fee-splitting between physician and surgeon came in for some expert denunciation by the recently formed American College of Surgeons, Dr. John M. T. Finney, President, at its mass meeting in the Exposition Auditorium on June 21. Among those that spoke at the meeting were Dr. Kenneth A. J. MacKenzie, of Portland, Ore., Dr. Edward Reynolds and Dr. Hugh Cabot, of Boston, Dr. William D. Haggard and Dr. John A. Witherspoon, of Nashville, Tenn., and Dr. C. A. L. Reed, of Cincinnati.

"Fee-splitting," Dr. Haggard declared, "is criminal because it leads, first, to unnecessary operations; second, to incompetent work resulting in unnecessary death, and, third, to a constant lowering of the moral and professional standards in medicine."

The practice appeared to have the essential elements of the venerable Chinese "squeeze." The tendency was toward a condition in which patients were peddled to the surgeon that would give the most for them; "who naturally is the most incompetent and unscrupulous surgeon available." In any case there was a strong temptation to operate in order to support the diagnosis of the physician, whether the operation was needed or not. The remedy was publicity. The determination evinced by the speakers to eradicate this evil promised well for the character of the medical profession as a whole, and well for the protection of the public.

Dr. Harry M. Sherman, of San Francisco, head of the California State Medical Society, was the presiding officer.

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ITALIAN TOWERS

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CHAPTER VII

HEALTH DEFENSE FOR THE AMERICAS

OF something more than scientific significance were the meetings of the Seventh Pan-American Medical Congress, which commenced on June 17, just after those of the American Society of Tropical Medicine. The congress was a gathering of eminent scientists of the western hemisphere to consider problems in their field affecting the American continents, and its international importance was recognized by the special invitation of the President of the United States issued in accordance with an act of Congress approved March 3, 1915, and by a Government appropriation of $10,000 for the entertainment of the delegates.

Eminent Delegates

The congress attracted some very well-known men, such as Dr. Rocha Vaz, of the University of Rio de Janeiro, Dr. A. Ramos, famous surgeon of Brazil, Dr. E. B. Demaria, of Argentina, Assistant Surgeon General J. W. Kerr, of the United States Public Health Service, Dr. Juan A. Pons, Dr. Julius F. Arteaga, of Cuba, and Dr. F. Mendez Capote, Cuba, Chief of the Cuban Public Health Service.

The President was Dr. Charles A. L. Reed of Cincinnati. The Vice-Presidents for countries outside the United States were: Dr. Horacio Penero, Buenos Aires, Argentina; Dr. Andres Munoz, La Paz, Bolivia; Dr. Oswaldo Cruz, Rio Janeiro, Brazil; Dr. E. P. Lachapelle, Montreal, Canada; Dr. Eduardo Moore, Santiago, Chile; Dr. Pompelio Martinez, Bogota, Colombia; Dr. Emilio Echevarria, San Jose, Costa Rica; Dr. Juan Guiteras, Havana, Cuba; Dr. Emilio Gerardo Roca, Guayaquil, Ecuador; Dr. Manuel Aparicio, Guatemala City, Guatemala; Dr. M. Demond, Haiti; Dr. Carlos Romero, Honduras; Dr. Regino Gonzales, Mexico City, Mexico; Dr. Juan Batista Sacasa, Leon, Nicaragua; Dr. Pedro Pena, Asuncion, Paraguay; Dr. Leonidas Avendano, Lima, Peru; Dr. Carlos Leiva, San Salvador; Dr. Fernando A. D'Fillo, Santo Domingo; Dr. Jose Scoseria, Montevideo, Uruguay; Dr. Bernardino Mosguera, Caracas, Venezuela.

For the United States the Vice-Presidents were: Dr. Frank Billings, Chicago, Ill.; Dr. Rupert Blue, Surgeon-General United States Public Health Service; Dr. W. C. Braisted, United States Navy; Dr. W. C. Gorgas,

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United States Army; Dr. Abraham Jacobi, New York; Dr. Henry L. E. Johnson, Washington, D. C.; Dr. W. W. Keen, Philadelphia; Dr. L. S. McMurtry, Louisville; Dr. Henry O. Marcy, Boston; Dr. J. M. Mathews, Louisville; Dr. Wm. J. Mayo, Rochester, Minn.; Dr. John B. Murphy, Chicago; Dr. W. L. Rodman, Philadelphia; Dr. Geo. M. Sternberg, Washington, D. C.; Dr. Victor C. Vaughan, Ann Arbor; Dr. J. A. Witherspoon, Nashville; Dr. John A. Wyeth, New York.

Dr. Ramón Guiterás, of New York, was Secretary General and Dr. Henry P. Newman of San Diego, Treasurer. The committee of arrangements was headed by Dr. Harry M. Sherman of San Francisco, while Dr. Henry L. E. Johnson of Washington represented the State Department as host in the entertainment of the visitors. Free entry for baggage was obtained from the Treasury Department, and the "Argonaut" and "Golden Gate" of the local quarantine service were detailed for the use of the delegates on a tour of inspection of the Government medical establishments around San Francisco Bay, including the Immigration Station and Quarantine. The official delegates were invited to attend the meetings of the American Medical Association, and after that almost all of them were taken as guests of the Government by special train to Santa Barbara, Los Angeles, San Diego, the Grand Canyon of the Colorado and the Yosemite Valley, returning to San Francisco by July 4.

Government Provision

The work of the Congress was covered by a division of the organization into sections of Medicine, Surgery, Obstetrics and Gynecology, Anatomy, Physiology, Bacteriology and Pathology, Preventive Medicine and Public Health, and Laryngology, Rhinology, Ophthalmology, and Otology.

The opening session was called to order by the President, Dr. Charles A. L. Reed, at the Auditorium. Dr. Rupert Blue, on behalf of the Federal Government, welcomed the delegates from South America, and other addresses of similar tenor were made by State Commissioner Chester H. Rowell for Governor Johnson, and Dr. Henry O. Marcy, of Boston. Responses were made by practically all the official delegates present from the other American republics and Canada.

The rest of the business was transacted in the section meetings, which discussed a long list of scientific papers.

It was in the section on Preventive Medicine and Public Health, however, under the chairmanship of Dr. C. C. Pierce, Senior Surgeon United States Public Health Service, that there were developed the discussions most fruitful in the handling of the problems peculiar to the western hemisphere.

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Assistant Surgeon General J. W. Kerr, of the United States Public Health Service, attacked the subject of trachoma, Dr. J. A. Farrell addressed himself to "The Development of the International Health Commission," and there was a symposium on "The Relation of the Consular Services to Pan-American Health Problems" which promised to be as serviceable as any part of the transactions of the congress. This symposium was held at an open meeting to which were invited the consular representatives of all countries belonging to the Pan-American Union that had consular offices in San Francisco, and it was the general belief that as a result of the conference the coöperative measures between the various countries interested, through the inspection of vessels and the general insistence on bills of health, were greatly stimulated and strengthened.

Consuls for Health

Before adjournment the congress at its third general session laid out these plans of work, to be accomplished in time for the eighth Pan-American Medical Congress in 1918:

To classify contagious diseases geographically so as better to combine in combating each.

To importune the Pan-American Union to promote exchange of medically scientific matter and news.

To gather reports on the status of medical education in the respective countries on this hemisphere.

To determine the feasibility of an interchange, between the countries, of medical professorships.

To secure the appointment in each American country of a committee to investigate its flora for international medical purposes.

To raise an international fund for that purpose.

The delegates voted their appreciation of the work performed in Brazil by Dr. Oswaldo Cruz, of Rio Janeiro, one of the Vice-Presidents of the congress, and of the good offices of the President, Dr. Charles A. L. Reed of Cincinnati, the Secretary, Dr. Ramón Guiterás of New York, and of Dr. H. L. E. Johnson of Washington, the Government representative.

The following were named as the new international committee to handle the affairs of the eighth congress: Dr. E. B. Demaria, Buenos Aires, Argentina; Dr. H. Mendez, La Paz, Bolivia; Dr. Alvaro Ramos, Rio Janeiro, Brazil; Dr. T. J. Shepperd, Montreal, Canada; Dr. J. Amunategui, Santiago, Chile; Dr. Carlos Duran, San Jose, Costa Rica; Dr. F. Mendez Capote, Havana, Cuba; Dr. Juan Padilla, Guatemala City, Guatemala; Dr. M. Jeanty, Port au Prince, Haiti; Dr. Eduardo Liceago, Mexico City, Mexico;

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Dr. Luis De Bayle, Leon, Nicaragua; Dr. Carlos Morales, Lima, Peru; Dr. Carlos Leiva, San Salvador; Dr. Aristides Fiallo Cabral, Santo Domingo City, Santo Domingo; Dr. F. A. Risquez, Caracas, Venezuela; Dr. A. S. Boyd, Chief Surgeon of Santo Tomas Hospital, Panama. The United States members were Drs. Charles A. L. Reed, Ramón Guiterás, Henry P. Newman, and Henry L. E. Johnson.

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"INDUSTRIAL FIRE"

FROM THE MURAL BY FRANK BRANGWYN FOR THE COURT OF ABUNDANCE

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CHAPTER VIII

SAFE MILK

THE annual meeting of the American Association of Medical Milk Commissions was held in San Francisco on June 17, 18, and 19, 1915, delegates being present from most of the important milk commissions of the United States. This organization was composed of the members of the commissions in the United States and Canada, having supervision of the production of certified milk in their respective communities. And the widely distributed origin of the delegates indicated the breadth of interest in this simple but vital subject.

The officers for 1914–1915 were: President, T. C. McCleave, M.D., Berkeley, Calif.; Secretary, Otto P. Geier, M.D., Cincinnati, O.; Assistant Secretary, Wm. J. Graf, M.D., Cincinnati, O.; Treasurer, J. P. Sedgwick, M.D., Minneapolis, Minn.; Council, Drs. J. J. Thomas, Chairman, Cleveland, O., Richard M. Smith, Boston, Mass., J. R. Williams, Rochester, N. Y., Walter D. Ludlum, Brooklyn, N. Y., Walter S. Hains, Chicago, Ill., T. C. McCleave, J. P. Sedgwick, Otto P. Geier.

The program for the San Francisco meeting included, besides routine business and reports, remarks by the President, by the President of the San Francisco Commission, Dr. Adelaide Brown, by the President of the California Association of Milk Commissions, Dr. Stanley Black, Pasadena, a review of the milk literature of the past year by Dr. M. P. Ravenel, Columbia, Mo., and papers on these subjects: "Dairying Conditions in Southern California," Geo. H. Hart, D.V.M., Veterinarian Los Angeles County Commission; "Method of Control in Certified Dairies Supplying the San Francisco Bay Region," Chester H. Roadhouse, D.V.M., Veterinarian San Francisco and Alameda County Commission; "The Relation of the Producer to the Commission," H. R. Timm, Dixon, Calif.; "The Relation of the Certified Milk Producers' Association to the American Association of Medical Milk Commissions," Dr. Raymond A. Pearson, President Iowa State College of Agriculture, Ames, Iowa; "The Attitude of the Medical Profession Toward Certified Milk," E. C. Fleischner, M.D., San Francisco; "The Relation of the Medical Milk Commission

Subject Reviewed

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to Municipal Health Boards," Henry L. Coit, M.D., Newark, N. J.; "What can be added to our Laboratory Methods and Standards to Improve Certified Milk?", J. Traum, D.V.M., University of California; "Certification *versus* Pasteurization," Walter D. Ludlum, M.D., Brooklyn; "A Review of Two Thousand Bacterial Counts on Bulk Certified Milk," J. J. Thomas, M.D., Cleveland; "Tuberculosis in Certified Herds. How to Meet the Fact and Estimate its Danger," Henry L. Coit, M.D., Newark, N. J.; "Some Observations on the Fermentation of Certified Milk," John Zahorsky, St. Louis, Mo.

In addition to the scientific sessions, an endeavor was made by the local commissions to give the delegates a California good time.

On June 17 the San Francisco Commission was host at a complimentary luncheon at the Bellevue Hotel, and the Alameda County Commission entertained at luncheon on June 18 at the Faculty Club, University of California; while on June 19, there was a trip to Mt. Tamalpais, with an outdoor luncheon at the Sleepy Hollow Dairy, San Anselmo. The evenings were spent at the Exposition and it seemed to be the general opinion that this was the most successful meeting the organization had ever held.

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CHAPTER IX

NURSING

THREE great nurses' organizations met in the week of June 20 to 27: The American Nurses' Association, Miss Genevieve Cooke, President; the National League of Nursing Education, Miss Clara D. Noyes, President; and the National Organization for Public Health Nursing, Miss Mary Gardner, President. Among the delegates were Miss Annie Goodrich, President of the International Council of Nurses, and Miss Sophie Palmer, editor of the "American Journal of Nursing." About 600 delegates from all parts of the country attended these conferences. Miss Goodrich succeeded Miss Cooke as President of the Association.

The visiting nurses were invited to a special Sunday service in the First Congregational Church, when Rev. Charles F. Aked, the pastor, spoke of "The Nurse; Her Mystery and History." He said that 100 years ago there was not a trained nurse in the world, and that the present day profession could trace its origin to Elizabeth Fry, the Quakeress. The following day the delegates met in their first regular joint session and were welcomed to San Francisco and the Exposition by Mrs. Frederick G. Sanborn, President of the Woman's Board.

A Young Profession

Several joint sessions were held, most of them in the Congregational Church. Red Cross work received considerable attention, and nurses that had lately returned from the European war contributed valuable information to the discussions, especially on conditions in Serbia. The rearing of children and the care of the new-born, particularly in regard to preventing blindness in infants, were among the themes treated; far too technically, of course, for presentation here.

The meeting of the American Nurses' Association was its 18th annual convention. It held five separate sessions and six more in connection with its affiliated organizations, the League of Nursing Education and the Organization for Public Health Nursing. The business sessions were brief, most of the time being devoted to papers and discussions. Among the subjects of the special sessions were private duty nursing, including the question of central directories; Red Cross work; legislation, including a comparison

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of the methods of administering registration laws; hourly nursing, graduate nurse associations, and central directories for the purpose of establishing a more useful system of hourly nursing.

Miss Sophie Rutley saw no reason why nurses should not advertise. Miss Katherine Hyde advocated some system of pensioning nurses. Other matters equally pertinent were discussed by the various speakers. One session was held in the Hearst Greek Theater at Berkeley, with members of the American Hospital Association as guests.

Among the resolutions of the American Nurses' Association there were three of general interest: one asking the Government to provide better medical and nursing care for the Indians on the reservations, another endorsing the movement for woman suffrage, and a third commending the campaign undertaken by the New York Department of Health against the use of alcohol.

The meeting of the National League of Nursing Education was the twenty-first annual convention of that body, and most of the separate sessions were devoted to educational matters connected with the art. There were exhaustive discussions of such subjects as "Uniform Education Requirements," "Inspection of Training Schools," "What Constitutes Good Teaching," "Indian Nurses and Nursing Indians," "Red Cross Nursing," "Central Registries," "The California Eight Hour Law," "The Origin, Growth, and Future Development of Nursing," and "The Social Life of Student Nurses."

Pressing Subjects

Miss Harriet Gillette, instructor at the Long Island College Hospital, Brooklyn, N. Y., made some valuable suggestions in her paper "How to Help Pupils to Study." She contended that explaining the nature of the lesson, and what it was meant to convey, made it easy.

The papers were thoroughly prepared, the speakers in earnest, and it was the general feeling that fresh impetus had been given to the work for higher professional ideals and better preparation for better service. Miss Noyes was reëlected President of the League.

The National Organization for Public Health Nursing was a comparatively younger body, and this was its third annual convention. The Executive Secretary was Miss Ella Phillips Crandall, of New York, who presided over some of the sessions in the absence of the President, Miss Mary S. Gardner. The sessions exhibited a strong movement toward the elimination of preventable blindness in new-born infants.

A paper written by Richard M. Bradley, of Boston, was read which made a plea for a better understanding between the professional and the practical nurse, and emphasized the strength of the practical nurse's position.

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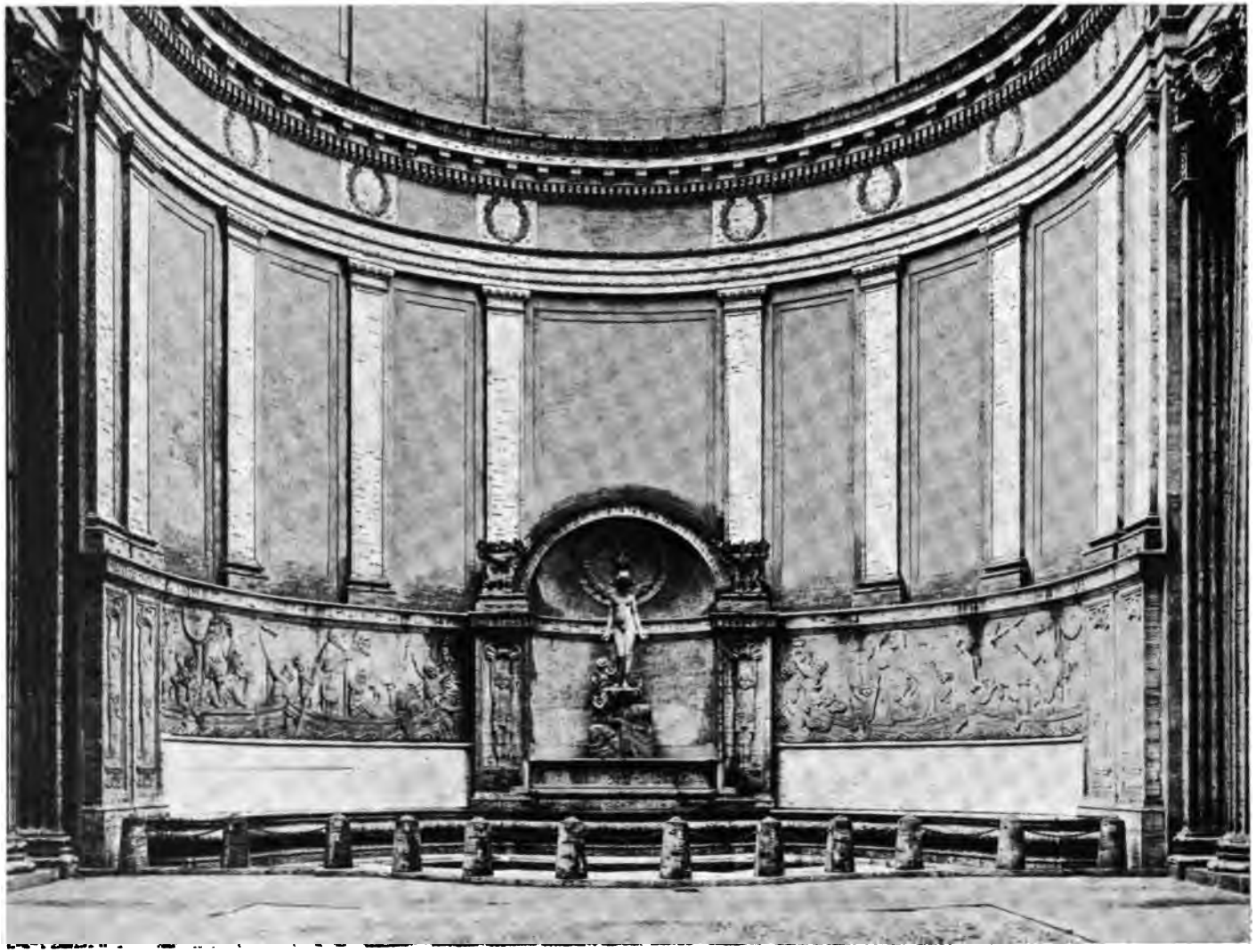

THOMAS HASTINGS, ARCHITECT

EDITH WOODMAN BURROUGHS, SCULPTOR

FOUNTAIN OF YOUTH; EAST WING, TOWER OF JEWELS

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"The trained nurse has failed up to the present to cope with the household side of the patient's problem. A patient cannot get the best effects from nursing if she is distraught about household cares, as she must be if there is no one to undertake them and no money to pay both a nurse and a housekeeper. The practical nurse has met that problem and as a result the trained nurse has been losing ground in the care of the vast majority of average, moderately-circumstanced families."

Bradley objected to correspondence education of nurses on the ground that the experience was not sufficiently practical.

A paper by Mrs. John H. Lowman pointed out the fact that both the very rich and the very poor now enjoy the benefits of trained nursing at need. "These two classes have always excited the imagination of the world. Now the time has come when society must consider the problem of protection in sickness for the great masses of toiling, average citizens." The system of clubbing together to pay for a nurse by several patients was suggested by Mrs. Lowman as a possibility in the work of providing trained nurses for bedside care. "We demand the karat and sterling mark upon our gold and silver, and yet to-day all kinds of young person in white aprons and stiff caps are entrusted with the care of patients without any guarantee of the honesty and painstaking effort which the neighborly nurses of past days put forth."

Miss Mary Riddle spoke on the origin, growth, and future development of the hourly nurse, and she pointed out the practicability of short-period nursing and the plan of having several nurses combine for the work, which she declared could be made a paying venture.

Dr. Lee K. Frankel, of New York, pointed out the necessity for the creation of standards for the visiting nurse, so that the value of her work may be more accurately estimated.

"Visiting nursing may give some benefit to the patient, but it has not materially lessened the death rate," said Dr. Frankel. He spoke of a proposed survey of sickness which he was about to undertake in an effort to get reliable facts regarding the use of the visiting nurse.

School nursing came in for discussion at one of the sessions, and reports were presented showing that systematic and scientific school nursing was rapidly gaining ground in all parts of the United States as well as in England and Canada.

In time to come, thousands of people in this country may owe their sight to the work of this young and vigorous organization, in coöperation with the National Committee for the Prevention of Blindness. It had a strong general committee on Infant Welfare, including prevention of blindness, and

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midwifery, the basis of whose work was outlined in the paper of Dr. Ellice M. Alger, a director in the national committee above mentioned. Some years ago, she pointed out, the American Medical Association had formed a Committee on Conservation of Vision, and recently the National Committee on the Prevention of Blindness had been organized.

Saving Sight

"The trained nurse is destined to take a far more prominent place in the obstetrics of the future, and must know about ophthalmia neonatorum. Crede showed that a drop of two per cent nitrate of silver instilled into the eyes of the new-born baby would practically abolish ophthalmia neonatorum. We want to lay new responsibilities on the nurse. Whether in the sick room, as midwife, teacher, social worker, she has a tremendous opportunity for social service, for popular education."

An important structural change was made in this field of the organization's work by dividing the Committee on Infant Welfare, so that midwifery and the prevention of blindness should be the special field of one committee. This was on recommendation of Miss Carolyn C. Van Blarcom, Chairman of the General Committee on Infant Welfare, who was referred to by the presiding officer as perhaps the leading authority in the country on these subjects.

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CHAPTER X

HEALTH IN THE SCHOOLS

IN no way did the beneficence of medical science show itself more distinctly than in reaching into the public school system of America to care for the children and protect their bodies from disease. By the Exposition year the movement had gained powerful impetus, and had the help of some of the best medical practitioners and social workers in the country. The meeting of the American School Hygiene Association, June 25 and 26, brought before the minds of the public at San Francisco who and what these men and women were and the high character of their public service. The Association had as its Honorary Presidents, Charles W. Eliot, of Harvard, and Dr. Henry P. Walcott, of Boston. The President was Henry M. Bracken, of St. Paul, Secretary of the Minnesota State Board of Health, the Vice-President Lewis M. Terman, Ph.D., of Stanford University, and the Secretary and Treasurer Dr. Thomas A. Storey of New York.

Need of the Work

The committee that organized the 1915 meeting at San Francisco was composed of some of the most energetic social workers in the State, and included the present head of Stanford University, Ray Lyman Wilbur, M.D. Its other members were: Lewis M. Terman, Ph.D., Chairman, Stanford University, Calif.; William Palmer Lucas, M.D., Secretary-Treasurer, University of California Hospital, San Francisco; Philip King Brown, M.D., San Francisco; Miss E. L. M. Tate, Los Angeles; George H. Kress, Los Angeles; Mrs. Alfred McLaughlin, San Francisco; Miss Alice S. Griffith, San Francisco; Leonard W. Ely, M.D., San Francisco; Mrs. Jesse Henry Steinhart, San Francisco; Miss Agnes Regan, San Francisco; Everett Beach, M.D., Los Angeles; Ernest B. Hoag, M.D., Los Angeles; Charles S. Kaiser, San Francisco; Edward Hyatt, Sacramento; N. K. Foster, M.D., Oakland.

In the absence of the president, Professor Terman acted as Chairman; and in the absence of the secretary, Dr. W. P. Lucas acted in his stead. On the program committee were Prof. Terman, Dr. Wilbur, and Dr. Ely.

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It was the eighth congress of the Association and was opened with the reading of an address written by Dr. Bracken. A very practical suggestion came from Frederick L. Hoffman of New Jersey, a statistician on juvenile life insurance, who said that there should be in all the schools of the United States for the use of the teachers having a classroom, a standard health-card comprising twenty questions regarding the health of a child. These questions, he argued, should be answered by the teacher from observation of every pupil. By this means, Hoffman declared, it would be possible in a month or two to classify all the children in a room as healthy, as healthy but not robust, as below the desired average of health, and as ailing from causes not necessarily serious.

Graded for Health

Dr. William A. Howe, who held the position of State Medical Inspector of Schools of New York, the first position of the sort in the United States, said that between the ages of six and ten years, 35 per cent of school children examined gave a tubercular reaction when tested, and between the ages of 10 and 13 the reaction occurred in 55 per cent. This, of course, included the children of large poverty-stricken districts. (Much depends, of course, on where such tests are made. Colorado statistics cited by a speaker at another Exposition medical conference looked far more encouraging. Ed.)

Dr. Hoag, of Long Beach, Calif., laid particular stress on the relation of the janitor service to the health of the children. "All through the public school service of the United States," he said, "the teachers, from their superintendents down to the juniors, are intimidated by fear of offending the building engineer or janitor. Therefore it is difficult to get them to record as to whether the janitor service is poor, or bad."

Dr. Howe of New York said that opposition to school hygiene is due largely to the fear of parents that some of their rights are being usurped. "We must inspire parents with the idea that we would do nothing more for their children than we would do for our own," said Dr. Howe. "Thereby we can gain the confidence of the mothers."

Four separate sessions were held in Hall C of the Exposition Auditorium. Papers were presented by leading workers in school hygiene from all parts of the United States, and the meeting was, therefore, national in fact as well as in name. The discussions covered many aspects of school hygiene and child welfare in general, and emphasized the broad scope and great public, as well as individual, benefits of school health work. Many of the papers presented the results of extensive investigation and experimental study. Among the most important of these were the following: "Some Results of the Health Inspection of 400,000 Rural School

Topics Treated

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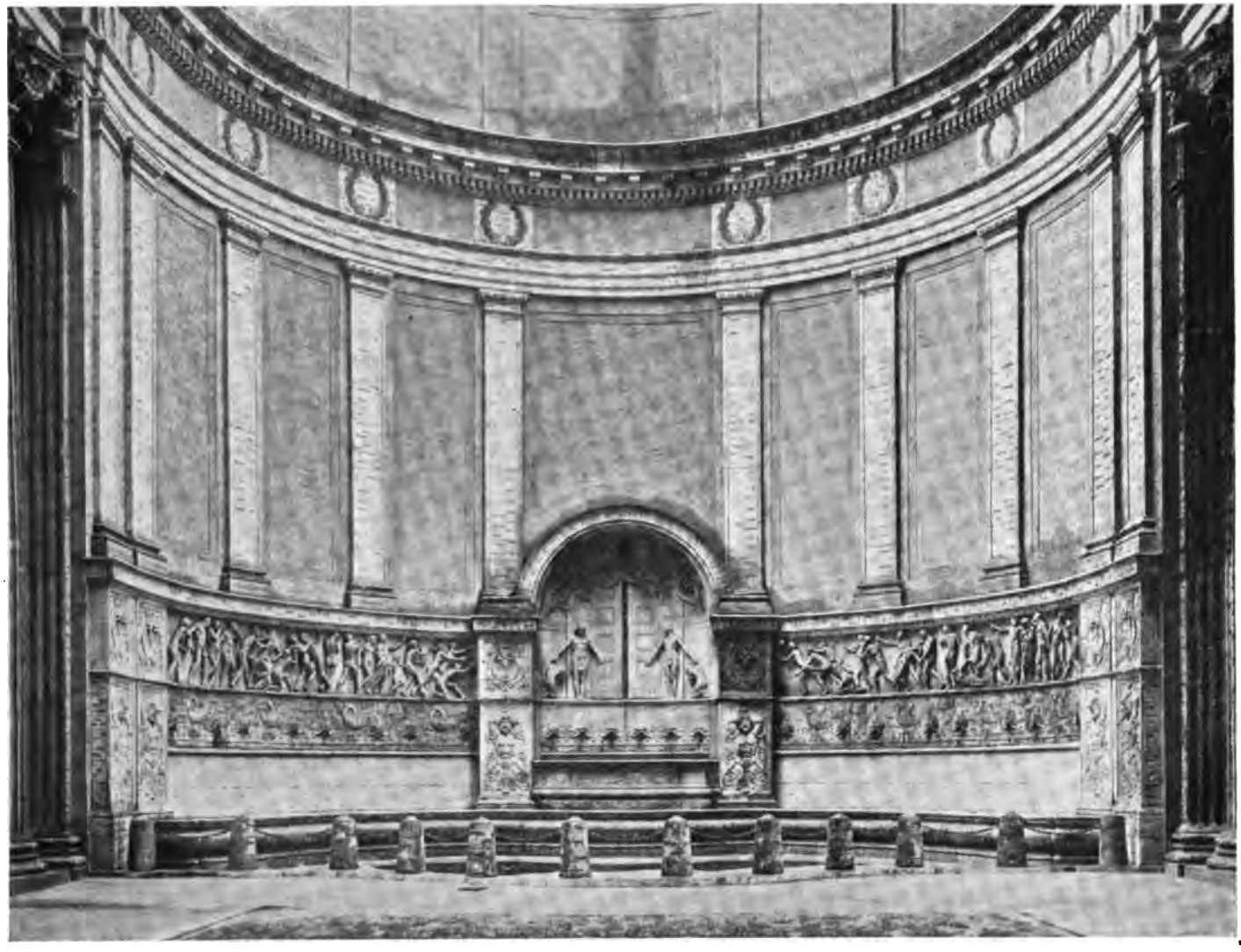

GERTRUDE VANDERBILT WHITNEY, SCULPTOR

FOUNTAIN OF EL DORADO; WEST WING, TOWER OF JEWELS

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Children in Pennsylvania," Samuel G. Dixon, Commissioner of Health, Harrisburg, Pa.; "Some Lessons from the Open Air School," Sherman C. Kingsley, Director Elizabeth McCormick Memorial Fund, Chicago; "A System of Sanitary School Inspection with Graded Standards and Exact Rating of School Buildings," Walter S. Cornell, M.D., Director of Medical Inspection of Schools, Philadelphia; "The Height and Weight of School Children," Lee K. Frankel, M.D., Metropolitan Life Insurance Company, New York; "The School and the Social Hygiene Movement," W. F. Snow, M.D., Secretary of the American Social Hygiene Association, New York; "The Hygienic Value of Grading a School According to the Intelligence of the Pupils," H. H. Goddard, Ph.D., Director of Research, The Training School, Vineland, New Jersey; "Significance and Prevention of Amebic Infections in Mouths of School Children," Anna Wessels Williams, M.D., Division of Laboratories, Department of Health, New York City; "Some Results of a Study of Goitre Among School Children," D. C. Hall, M.D., Professor of Physical Education and Hygiene, University of Washington, Seattle; "Normal Schools as Instruments of Public Health," Elizabeth W. Allison, M.D., Medical Director of State Normal Schools, Superior, Wisconsin.

Another phase of school hygiene that received strong emphasis related to the methods of securing practical coöperation between the school, the home, and the medical and dental professions. Dr. W. P. Lucas, of the University of California Medical School, presented an original plan of cooperation between the children's department of the Medical School and university departments of education.

Dr. N. K. Foster, Medical Director of Schools, Oakland, California, presented the advantages of nurse inspection in the schools. The same idea was supported by Dr. E. B. Hoag, Medical Director of Schools, Long Beach, California, and by Dr. W. A. Howe, State Director of Medical Inspection for New York. Dr. J. N. Force, Professor of Epidemiology, University of California, set forth the necessity of coöperation on the part of the teacher in the control of contagious diseases. Superintendent L. N. Hines, of Indiana, Dr. Margaret E. Shallenberger, and others, explained the need of coördination between home and school if the general health is to be improved.

An interesting exhibit of distinctive school architectural plans was prepared by Charles S. Kaiser. The numerous exhibits at the Exposition relating to child hygiene had been previously catalogued by Mrs. Alfred McLaughlin and Miss Alice S. Griffith, and the list of these exhibits was published as a special pamphlet and distributed to the members of the congress

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for their convenience. All of the contributions ultimately appeared in the published proceedings, which were widely distributed throughout the United States, and were used for reference purposes by students in the universities, colleges, and normal schools of the country, so that the influence of the congress permeated all departments of educational work.

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CHAPTER XI

EXTENDING MEDICAL KNOWLEDGE

IN 1915 the name and writings of Dr. Woods Hutchinson, of Portland, Me., were probably known to more people in this country than those of any other writer on medical subjects, not even excepting the author of Gray's Anatomy. It could not be said that he had made medicine a popular beverage, but it might have been said, in Ingersoll's immortal phrase, that he had tried to make health catching instead of disease. He could write about hygiene and diet and contagions and bacteria and similar dry things in a manner so interesting you were almost willing to catch something just to see it operate; and he had the attention of the newspaper and magazine readers of the nation.

A Health Apostle

Dr. Hutchinson came to San Francisco as the President-elect of the American Academy of Medicine. The President of the Academy was Dr. John L. Heffron, of Syracuse, N. Y.; the Vice-Presidents were Dr. Walt P. Conaway, of Atlantic City and Dr. George A. Hare of Fresno, Calif.; the Secretary and Treasurer was Dr. Charles McIntire, of Easton, Pa. The Academy specialized in medical sociology, and this was its 40th annual meeting, with "Medicine in its Relationships to Commerce and Transportation" as its main theme. Sessions were held June 25 to 28 inclusive, and were attended by many medical missionaries from the Far East, some of whom presented their experiences and observations in interesting papers. The spirit of the meeting was the motive of extending the benefits of medical science to the farthest regions of the earth.

In his address on the evening of the first day of the meeting, Dr. Hutchinson characterized the work done by General Gorgas at Panama as the greatest achievement of the century, and he also declared that no new settlements or colonies should be built up until the physician had prepared the way. He predicted that the Gorgas achievement would lead to the rapid development of tropical lands by northern civilization. The biggest fight ever waged by man had been the fight against flies and mosquitoes. The biggest work before physicians during the next 25 and 50 years would be that of preventing disease, decreasing the death rate. New countries could and

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should be made models of health, efficiency, and comfort for the older communities and could easily be made so at moderate expense if the physician pioneer were given a free hand in advance as Gorgas was at Panama.

"Western Medicine in Eastern Lands" was discussed at a session in the First Congregational Church, under the auspices of the Academy. Many medical missionaries were present, and they declared that their problem was an eternal warfare against filth, ignorance, and superstition until medical missionaries had almost come to put cleanliness ahead of godliness. The Rev. J. K. Browne, who voiced this sentiment, declared the doctor was the most valuable asset of the church in the Orient, opening the door to religious sects previously closed to the Caucasian and especially effective in the case of Mohammedanism.

Healing the East

Dr. Caroline S. Merwin, of Tsinan Fu, Shanghai, spoke of the astounding lack of physicians in China, declaring that the Flowery Kingdom had so few doctors in proportion to the population that, on the same basis, California would possess only two in the State. Until China could educate a generation of physicians and surgeons for its own needs, she said there would be a crying demand for foreign medical missionaries.

Dr. Mary Riggs Noble, Vice-Principal of the Woman's Christian Medical College in Ludhiana, India, discussing medical work in Northern Hindustan, said that there were 40,000,000 women hidden behind the forbidden doors of harems, whom no male doctor could treat, and that, therefore, there was a tremendous demand for native women doctors. "In India," she said, "it is not so much a problem of building up a practice as of carving it down. The medical missionary's task is that of conducting a laboratory of applied Christianity."

Women Needed

Representative missionaries from Turkey, China, India, Siam, the Malay Peninsula, and other Oriental nations furnished interesting data on their individual fields. Dr. L. Duncan Bulkley presided at this meeting.

The session of the last day devoted a good deal of attention to disease transmission by insects. There were three papers on the subject: by Dr. W. C. Rucker, Assistant Surgeon General of the United States Public Health Service, by Dr. W. A. Sawyer, of Berkeley, and by Prof. Vernon Lyman Kellogg of Stanford University.

Before adjourning to meet the following year at Detroit the Academy selected Dr. George A. Hare of Fresno as its President-elect.

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LIGHTS ON THE PERISTYLE

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CHAPTER XII

THE WORLD'S INTELLIGENCE CORPS

ONE of the great congresses assembled at the Exposition was the International Press Congress, attended by journalists from Japan, India, Australia, Russia, Persia, the whole world. It required special and external promotion, almost as much as the engineering and insurance congresses, and the work was delegated to Prof. Walter Williams, Dean of the School of Journalism of the University of Missouri. Williams had been on a tour of the world making a study of world journalism, and returned to this country in May, 1914, equipped with a large fund of general and particular knowledge about methods of conducting newspapers abroad and with wide personal acquaintance with the men that were conducting them. He was drafted into the Exposition service, and he made a brilliant campaign with the most satisfactory results.

Williams was already widely known to newspaper men through his work as a teacher of journalism, and he induced national newspaper organizations to appoint committees for coöperation. He pushed the idea, through world-wide correspondence, and invited all nations and the governors of all domestic States to appoint delegates.

In respect to numbers, timeliness, and distinction of participants, the International Press Congress, which met in Festival Hall, and Recital Hall in the same building, from July 5th to 10th, was probably the most important large gathering of newspaper men ever known. It gave birth to the Press Congress of the World, a permanent organization embodying the very essence of internationalism, to meet triennially in the world's capitals and to embrace workers in every department of newspaper work in all countries; and it clarified and defined, through its discussions, the best ideas of the function and opportunities of one of the greatest of modern historic forces, the press.

Important Gathering

The scope of the arrangements was so broad and inclusive that the deliberations fairly represented the press of civilization. Like the wires of their news-gathering machinery, the routes of the newspaper men converging on San Francisco formed a web connecting all parts of the earth, except Africa,

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with the Exposition. For here, Sugimura, of the Tokio "Asahi" met Broggi, of the "Hiberno-Argentine Review," and K. D. Shastri, of Benares, was brought into intellectual touch with Mirza Ali-Kuli Khan, of Persia. Li Sum Ling, of the Pekin "Daily News," stood on the same platform with Aaron Watson, of the London "Times," and Virgilio Rodriguez Beteta, of the "Diario de Centro America" of Guatemala City, and Mark Cohen of the Dunedin, New Zealand, "Evening Star," and Amato B. Amati of the "Giornale d'Italia" of Rome—with Enrique Lievano of the "Gaceta Republicana" of Bogota, and James A. Buchanan of "El Mundo," Havana, and Dr. Herman Schoop of the Swiss Press Association as innocent bystanders. Sitting at these meetings you grew accustomed to hearing an editor from the Alps followed by one from Australia, or the Andes, until there were no more geographical barriers, and few features left of the geography at all.

The American editors were legion. Nearly 500 delegates from the Eastern States arrived by way of Chicago and Kansas City on one special train.

The actual enrollment of delegates came to 957—"a number," said Williams, "more than 50 per cent larger than the most sanguine promoters of the congress had expected." And the delegates were accompanied by some 1,230 visitors, making a total of 2,187 persons in attendance. They represented 26 nations and 46 States of the Union. Three-fourths of the delegates were from outside California, and 123 came from foreign countries, representing Australia, Austria-Hungary, Argentina, Cuba, China, Canada, Colombia, Denmark, France, Greece, Germany, Guatemala, England, Ireland, Portugal, Switzerland, Honduras, Italy, Java, India, Japan, Mexico, New Zealand, Spain, and Sweden. Alaska, Hawaii, and the Philippine Islands were represented.

Among the notable foreign delegates were S. D. Scott, of the Vancouver "News-Advertiser"; A. R. Ford, Secretary of the Dominion Press Gallery of Ottawa; Capt. J. W. Niesigh, former President of the Australian Journalists' Association of Sydney; H. F. Urban, representing the Hamburger "Fremdenblatt."

The Officers

The officers of the congress were: Virgilio Rodriguez Beteta, editor "Diario de Centro America," Guatemala City, Honorary President; Vice-Presidents: George E. Hosmer, Denver, Colo., President National Editorial Association; Harvey Ingham, editor "Register and Leader," Des Moines, Iowa, American Newspaper Publishers' Association; F. W. Richardson, Sacramento, President California Press Association; Louis H. Hammerling, New York, President American Association of Foreign Language Newspapers; Merle Thorpe, University of Kansas,

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President American Association of Teachers of Journalism; John Clyde Oswald, editor "American Printer," New York, President of the Federation of Trade Press Associations in the United States; Honorary Secretaries: Dr. H. Schoop, "Presse de la Suisse," "Schweizer Illustrete Zeitung," Alten, Switzerland; Gardiner Kline, Secretary New York Associated Dailies, "Recorder," Amsterdam, N. Y.; Assistant Secretaries: George Schlosser, Sioux Falls, South Dakota, Secretary National Editorial Association; O. A. King, Walnut Creek, California, Secretary California Press Association; H. M. Blain, Louisiana State University, Secretary American Association of Teachers of Journalism; B. B. Herbert, editor "National Printer and Journalist," Chicago; A. L. Cowell, Convention Bureau, Panama-Pacific International Exposition, Publication Committee: Jason Rogers, publisher "Globe," New York, Chairman.

Technical and trade papers were fully represented and their functions discussed and defined. Journalism had been making its way as a definite profession into the curricula of universities, and that phase of it was fully represented by such exponents as Walter Williams of Missouri University, Talcott Williams of Columbia, and Merle Thorpe of the University of Kansas.

Even cursory reading of the addresses and discussions revealed that journalism could not, any more than any other living thing, escape its due share of change and progress. For one thing, papers had been growing larger, and in his lucid review of newspaper history at one of the sessions, M. H. de Young of the San Francisco "Chronicle" observed that they had grown so large that no man with any other business to attend to could read his morning paper clear through. Peter Clark Macfarlane of the New York "Sun" could see underneath, a current that was changing the character of the newspaper—it appeared to be getting through with the period of mere journalistic achievement and entering upon a period of service. Moreover, mere recitals of fact failed to satisfy the reader any longer, and the writer that could introduce some of the graces of literature was becoming more and more valuable. Journals were feeling the need of personal character and personal expression; a view partly supported by the recent appearance of the flock of "colyumists," who were gaining fame all over the country as humorists, commentators, satirists, and critics, and many of whom assembled for the convention of American Press Humorists late in the following month.

Giving it Interest

The appearance of these very evident symptoms of evolution added interest to the proceedings of the congress.

A great many delegates arrived on July 5, and the day was devoted to

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visiting the Exposition and taking part in the celebration of Independence Day.

The formal sessions opened next day in Festival Hall, which was crowded to the doors, and where the main address was delivered by William J. Bryan, editor of the "Commoner" and former United States Secretary of State. The meeting opened with a brief address by Walter Williams, and there was a warm welcome to the delegates from President Moore of the Exposition.

Mr. Bryan was introduced by Señor Beteta of Guatemala, Honorary President of the congress, and addressed himself to some of the larger ethical aspects of newspaper management. His subject was "Journalism in its Relation to World Affairs," and he was humorous, forceful, and impressive on the moral issues.

"I believe the time has come in the United States when we should by law require the owner of a newspaper to tell his readers what interest he has in the thing he advocates.

"I am sure that I am within the bounds of truth and logic when I say that if editors were to sign what they wrote they would write more carefully; and if the news reports were signed there would not be so many inaccuracies in them.

"When a man tells me he can write as well on one side of a question as on the other, I would not let him write on either side."

Harvey Ingham, of the Des Moines "Register and Leader," presided at the afternoon session, when M. H. de Young, a Vice-President of the Exposition, and publisher of the San Francisco "Chronicle," presented a commemorative medal to the American Newspaper Publishers' Association, which was accepted by E. B. Piper of the Portland "Oregonian"; and a commemorative scroll on behalf of the Exposition to the International Press Congress, which was acknowledged by Robert B. Bell, editor of the Ashburton, New Zealand, "Guardian."

S. D. Scott, of Canada, Mirza Ali-Kuli Khan, of Persia, G. E. Uyehara, of Tokio, Kee Owyang, of China, Manuel Roldan, of Lisbon, K. D. Shastri, of Benares, Dr. Schoop, of Switzerland, Dr. Vassardakis, of Athens, Ernesto Nelson, of the Argentine, and Capt. J. W. Niesigh, of Sydney, described the journalism of their respective countries, and Norman E. Mack, of the Buffalo "Times," told of journalistic aims in the United States.

It is impossible to review here the proceedings of all the sessions, and of the meetings held under the auspices of the various related organizations. They would fill a large volume. The National Editorial Association, the California Press Association, the American Association of Teachers of Journalism, and the Federation of Trade Press Associations of the United States

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THE POOL WITH JETS; FORECOURT OF STARS

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held special group sessions at which questions relating to the particular interests represented by these organizations were discussed.

Certain observations of the speakers had a bearing on the subject, of more than passing interest. Macfarlane, actor, clergyman, author, and New York "Sun" reporter, in the course of his address on the "Work of the Reporter," declared:

"Journalism is greater than bread and butter. It does not exist to supply our bread and butter, but to supply a want of the world." And when he said that, he said what the economist recognizes to be true not merely of journalism but of every legitimate and deserving activity in which men engage as a business, whether those so engaged know it or not.

Forced Sensations

"The thing to complain against is not the demand for sensation, but a habit of furnishing a false sensation when there is no real one. . . . It is easier to write fiction than fact. I know it because I pretend to do both." Amen, Brother!

"The editors of a few years ago said that the people only wanted facts. Never mind about the writing; put it down, put it down! They advocated an enormous mass of facts. But have you noticed in the last few years, especially in the afternoon papers which are read by people who have a little more time, columns of comment, of personal advice to the love-sick, and so on?

"Do you know what that means? It means that people are tired of a diet of Hamburger steak, and now they want something garnished, something made digestible by the vital juices of some personality. The day of the writing man has come, and he is important to the community as one. This is a supreme moment, it seems to me, for the man who holds the pen poised in his hand. Big events have always made big writers."

Said Ernesto Nelson, publisher of "La Nacion," of Buenos Aires: "On the press of America, north and south, devolves the task of promoting a better understanding between the nations of this continent, if we are to prevent our growing farther and farther apart. I am firmly convinced that socialism would not have made such decided strides in Argentina as a cure for social unrest had we been more in living touch with the expression of your democratic life, with the underlying ideas of your institutions."

Aaron Watson, London "Times" leader writer, pointed out the relation between the newspaper and its readers in these terms:

"Nothing is more common than the mistake of supposing that the average man takes all his opinions from his newspaper. It would be much nearer the truth to say that he takes his newspaper because he expects to find in it the expression of his own opinions. If he were always on candid terms

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with his own mind, he would frequently tell himself 'That is just what I wanted to say and couldn't!' It is precisely this satisfaction with himself which the reader feels when the newspaper has hit some bull's-eye in his mind.

"The successful newspaper of the future will be that which has most completely fathomed the mind of the average man.

"The newspaper that may be depended upon for soundness of views, for accuracy and variety of news, for a true measure of values as applied to the events of the day is the newspaper that will gain and hold its public."

Piper, of the Portland "Oregonian," declared that woman suffrage had "given decent journalism another powerful lever for the control of public action through an educated public opinion."

At the final session it was decided to make the congress a permanent organization, so they elected Walter Williams President of the Press Congress of the World, and A. R. Ford, of Toronto, Secretary-Treasurer, named an executive committee, appointed vice-presidents from the participating countries, adopted a constitution, and decided to meet at Sydney in 1918.

The newspaper men attending the congress were tendered a reception and ball in the California Building by the President and Directors of the Exposition. On another day the delegates and their families were taken on launches to visit the battleship "Oregon." Some of the editors were the guests of H. A. van Coenen Torchiana and Mrs. Torchiana at a reception in The Netherlands Pavilion, and there were other receptions tendered them by Chen Chi, Commissioner General for China, and Haruki Yamawaki, Commissioner General for Japan, and by the Philippines Commission and the New York Commission.

The Press Congress was preceded by a Congress of Authors and Journalists, and a meeting of the Pacific Coast Woman's Press Association, both under the presidency of California's poetess, Miss Ina Coolbrith.

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CHAPTER XIII

HISTORIANS OF THE PACIFIC AREA

THE admission of a Japanese gentleman of the seventeenth century to patrician rank in Rome, the Dutch and English navigation of the Pacific as a revolt against the Hapsburg power in Europe, and Colonel Theodore Roosevelt's account of the Panama Revolution that preceded the construction of the Canal, were a few among the many interesting themes of the Panama-Pacific Historical Congress.

Three organizations for discovering and analyzing history and recording the results, combined their meetings at San Francisco to form this important gathering, at which archivists and investigators of Spain, America, and Japan shed much new light on early developments in the Pacific region. These organizations were: the American Historical Association, the American Asiatic Association, and the Asiatic Institute. The sessions were held at San Francisco from July 19 to 21, at Berkeley on July 22, and at Palo Alto on July 23.

Agencies of Research

The papers covered the era of Spanish and Portuguese exploration and Spanish monopoly of the Pacific area, of early Mexican-Japanese relations, of English buccaneering, of Russian adventure and retirement, of Spanish-American independence, of the founding of the California Missions, and the steps of transition to the present status—accompanied by an address on the various projects for constructing a water-gate into the Pacific from the Atlantic, which ultimately found embodiment in the Panama Canal.

On the whole, it was a comprehensive and valuable presentation of a section of history that had a most romantic interest in this time and place. In the light of it you saw that the Pacific had long been a lake that gave a dim reflection of European politics and European wars, for the late Prof. Henry Morse Stephens, of the University of California, showed the adventurous English and Dutch developments to have been an extension of European conflict into the West.

The congress resulted largely from the initiative and labors of Professor Stephens, President of the American Historical Association, and Rudolph J. Taussig, President of the Academy of Pacific Coast History, Secretary of

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the Exposition and a member of its Board of Directors. Taussig was Chairman of the Committee of Arrangements, and Prof. E. D. Adams, of Stanford University, was Chairman of the Committee on Program. Adams was succeeded in this position by Prof. Frederic L. Thompson, of Amherst, who was residing temporarily at Berkeley. By joining the meetings of the three associations, a congress of high authority was created from whose transactions a history of the Pacific since white men have known it could have been written—in fact, did issue in a fine tome from the press of the Macmillan Company, New York, under the title "The Pacific Ocean in History," to which we are indebted for many of the extracts in this chapter.

Sessions were held at a number of different places—the Philippines' Building, the auditorium of the Oregon Building, the California Building, the Argentine Pavilion, the Fairmont Hotel, Native Sons' Hall, at the University of California, and at Stanford University. There were luncheons to the delegates at both universities, there was a reception at the home of President Wheeler of the University of California, there were delightful hours at the home of Mr. and Mrs. William H. Crocker at Burlingame and the country place of Mrs. Phoebe Apperson Hearst at Pleasanton.

Four addresses of value bore directly on the main topic of the congress: that of Professor Stephens on "The Conflict of European Nations in the Pacific"; of Señor Don Rafael Altamira y Crevea, professor in the University of Madrid, representing the Spanish Government at the congress, on "The Share of Spain in the History of the Pacific Ocean"; "The History of California," by Judge John F. Davis, Grand President of the Native Sons of the Golden West; and "The American Interoceanic Canal; an Historical Sketch of the Canal Idea," by Rudolph J. Taussig. It was the last-named address, dealing with what Colonel Roosevelt called "four centuries of conversation on the subject," that the Colonel supplemented with the closing chapter of the history of Canal projects.

These four addresses were delivered at the evening sessions, of which they formed the principal features. Of the session devoted to groups of briefer papers, five presented as many different phases of the central theme of the congress. One session held jointly with the two Asiatic societies was given over to the Philippines and their history; one to the Northwestern States, British Columbia and Alaska; one to Spanish America and the Pacific; one to the exploration of the North Pacific and the settlement of California, and one to Japan and Australasia.

There was a meeting of the California History Teachers' Association, and one meeting was devoted to the history of New Mexico.

One of the notable contributions was the paper by Mr. Taussig. This

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A RAILROAD BUILDING IN THE GROUNDS

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paper reviewed the whole canal project; from the vague visions of the early discoverers and conquistadors who realized the need of the waterway, into the field of practical suggestions; and then traced it through its tortuous diplomatic and political channels to the reality which the Exposition was celebrating. Beginning with the early discoverers, the paper showed that many of them had a keen realization of the fact that it would be easier to find a canal than to build one and easier to claim to have found it than to do either. For years the search for a passage through the western hemisphere was pursued by one great navigator after another, and from the Pacific as well as from the Atlantic side. Many claimed to have discovered it. One of the claimants was Juan de Fuca, who sailed into the strait that still bears his name, and possibly, having got into Puget Sound, thought that he actually had reached at least an arm of the Atlantic; at any rate he said he had reached it. Magellan's discovery was too far south to furnish any satisfactory solution of the problem, and reluctantly men had to give up the idea of finding a channel and set about plans for creating it.

How the Idea Grew

"From the Arctic Ocean to the Straits of Magellan no tempting stream that poured its waters into either ocean was neglected, no bay, no inlet failed to receive the careful examination of the explorer; no dream too wild but found its supporters—but all to no purpose. The fact remained that there was no open way from ocean to ocean, and *that* being established beyond doubt, former plans of a canal were revived and new ones advanced."

Mr. Taussig quoted the prescience of Goethe in 1827, expressed in a statement that furnished one of the inscriptions on the Arch of the Setting Sun. "This much however is certain, if a canal could be built which would permit the passage of ships of all sizes from ocean to ocean, the entire world, both civilized and uncivilized, would reap countless benefits. But it would surprise me if the United States would miss the opportunity of getting such a work into their own hands. The westward tendency of this young nation will in the course of thirty or forty years have established it beyond the Rockies. New trading centers will spring up in the safe and roomy harbors on the Pacific Coast for developing commercial relations with China and the East Indies. In that event it will not only be desirable but also necessary that both merchant vessels and men of war should have a quicker connection between the Atlantic and Pacific than is possible around Cape Horn. I therefore repeat that it is absolutely necessary for the United States to build the interoceanic canal and I am sure that she will do so. I would like to live to see this, but I will not, though it would be worth while to bear life for fifty years longer for this purpose."

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The paper reviewed the projects of the Central American states, and of Louis Napoleon before he became Emperor of the French for a canal through Nicaragua, a scheme that probably led to the negotiation of the obstructive Clayton-Bulwer treaty. There followed an account of the efforts to abrogate the treaty, the Paris conference of 1879, the entrance of De Lesseps upon the stage, and the declaration of President Hays that "the policy of this country is a canal under American control," a policy practically re-stated by President Garfield and affirmed by James G. Blaine when Secretary of State. The De Lesseps failure was recounted, and then all the troublesome negotiations leading to the supersession of the Clayton-Bulwer by the Hay-Pauncefote treaty, the purchase of the French rights, and the gradual evolution of the project toward actuality. Mr. Taussig concluded:

American Policy

"Then came the vexatious negotiations with Colombia, which finally resulted in the establishment of the Republic of Panama, with which the United States proceeded to make satisfactory treaties concerning the Canal.

"The story of its construction must be an interesting one, but it is entirely separate and apart from its historical development which I have endeavored to present to you. We are here to-day to celebrate its completion, and it will be one of the most interesting studies of the years to come to watch its effect upon the trade of the entire world. What will be the effect of the closer relations of Europe with the lands of the Pacific, and what effect will they in turn have upon Europe? We can only hope that the same general benefit to mankind which has always resulted from bringing together more closely the peoples of the world, will also prove true in this instance."

At the conclusion of Mr. Taussig's review, Colonel Roosevelt, himself a former President of the American Historical Association, gave, in response to the request of the Chairman, an account of the events through which he had, as President of the United States, obtained for this country the right to build the Canal. This statement is worth attention here for its clarity and vigor, as well as its authority as an historical source, and also as an example of the sort of history, alive and vivid, that this congress brought before the world. We can do not better than present it in part in Colonel Roosevelt's own words.

Roosevelt on Panama

"When I became President, every one had announced that the time had come to build the Isthmian Canal. I announced that myself, and I meant it. . . . And in any event it is a mistake for any person privately, or for all persons publicly, to hire me to do anything unless they want it done.

"There had been a Pan-American meeting at which all of the republics,

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or practically all of the republics of the western hemisphere, were represented; at which meeting all the representatives of those republics, including Colombia's representative, had voted, first, that the Isthmian Canal must be built as speedily as possible; and, second, that the United States was to build it. Our people, through their official representatives, had announced that it was the intention of this Government to build the Canal. . . .

"The first draft of the Hay-Pauncefote Treaty provided in effect that the Canal should be under the joint control, not only of the United States and Great Britain, but also of France and Germany. Imagine the pleasure of administering a Canal under such a combination during the past year! That proposed treaty denied our right to fortify the Canal. I, as Governor (of New York), issued a statement saying I earnestly hoped the treaty would be defeated, unless it were amended so that we should have a right to fortify the Canal we built, and the sole right of dominion over it and defense of it.

"That treaty was defeated. The treaty that was adopted shortly after I became President contained the two provisions for which I had asked in that statement. We were given the right to fortify the Canal. . . . England and France and Germany were all eliminated from control of it, and that is why it has been at peace during the past year. . . .

"Colombia negotiated with us on its own initiative a treaty in which it set the price that we should give for the Canal rights at ten million dollars; negotiating that treaty so as to persuade us not to negotiate a treaty with Nicaragua. . . . At that time Colombia was under a dictatorship. . . . The President of Colombia was a gentleman named Maroquin. . . . He was elected Vice-President and inherited the presidency by putting the President in a wooden cage on an ox-wagon and sending him to jail. . . . He was a strict constitutionalist. . . . He pointed out that the President was absent, and began to perform, under the constitution, all the executive functions.

Legal Methods

"As soon as the Colombian Government, that is as soon as Maroquin, thought we were bound, and had definitely abandoned the Nicaragua route, the government, or Maroquin, turned and declined to fulfill his engagement with us. He suddenly betrayed scruples of conscience about the constitution. He said it prohibited the action he was about to take, and he summoned the congress—which had not been summoned for five years—to help him make up his mind about the constitution. . . .

"A few years before, they had given, or Maroquin had given, to the French company an extension of time in which to do its work before it became subject to forfeiture. The Colombian congress declared that it had

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been unconstitutional to grant the increase of time to the French company, and that next year they would take possession of the French company's belongings on the Isthmus.

"Mr. Beaupre (the American Minister to Colombia), notified the State Department that the agent of the French company had come to him and told him that the Colombian authorities had notified him that their constitutional scruples about the passage of the treaty could be overcome by the payment of ten million dollars . . . that unless ten million of the forty million that the United States were to pay the French company were paid over to the government at Bogota the treaty would not be ratified, the extension of time of the French company would be canceled, and the Colombian government would next year, in 1904, take possession of the belongings of the French company on the Isthmus.

"Of course, France would not have permitted that to be done, and if I had permitted it to be done I would have found myself the following year faced with the fact that one of the great military nations of the Old World, France, was in actual possession of the zone through which the Panama Canal was to be dug; I should have had France on the Isthmus instead of Colombia.

"I had not the slightest intention of submitting to any such blackmailing scheme. . . . I regarded the action of Mr. Maroquin and his subordinates as pure highway robbery, and I did not intend for one moment to submit to it. . . .

"We had, many years previously, entered into a treaty with the power owning and governing the Isthmus, under which we had covenanted to keep the strip of territory across the Isthmus clear for purposes of commerce, and to protect it from any assault from without. That agreement had not been made with the Republic of Colombia but with a predecessor named New Granada. . . . At one time Panama itself had been an independent republic; then it had joined New Granada, afterwards Colombia, as a State, reserving to itself in the Articles of Confederation the right of secession. Then it had been seized by Colombia and held without regard to the articles in the treaty under which it had joined. Our view was that the covenant ran with the land. . . . The government with which we had to deal on the Isthmus had never been a government such as we are accustomed to associate with civilized and settled peoples. In the 53 years preceding the crises of 1903 there had been on the Isthmus exactly 53 revolutions, successful or unsuccessful.

Many Owners

"I had done my best to make an agreement with Colombia. Now I had to decide whether that 'hold-up' scheme should be successful, and I decided

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GLACIER PARK INDIANS AT THE GREAT NORTHERN BUILDING

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that it should not. . . . All the time the Isthmus was seething with revolution. . . . It has been said that I raised my hand and caused revolution. The simile is inexact. There were a dozen fuses always burning and leading up to revolutionary explosions in Panama. I came to the conclusion that I was absolved from all further duty to stamp out those fuses. The Government of the United States never took the smallest part, directly or indirectly, in fomenting or encouraging any revolutionary movement in Panama. Any statement to the contrary is a wicked and slanderous falsehood. . . .

"I ordered warships to the Isthmus to protect persons and property there. . . . The first gunboat arrived just after the Colombian regiment had landed at Colon, and the commander of the regiment had threatened to massacre the men, women, and children, citizens of the United States, and other foreigners in Colon. . . . The Americans who were in danger were protected by our own ships and not by the ships of any other power. Meanwhile the revolution broke out with great enthusiasm. Nobody opposed it. No blood was shed whatever, except that a Colombian gunboat came up on the Pacific side, bombarded Panama, and killed a disinterested Chinaman who was looking on at the revolution.

Total Casualties

"There is not one action of the American Government in connection with foreign affairs, from the day when the Constitution was adopted down to the present time, so important as the action taken by this Government in connection with the acquisition and building of the Panama Canal. I am here to-night to speak to you because I know that in the course of that action every step taken was a step not only demanded by the honor and the interest of my country, but one taken with scrupulous regard to the nicest laws of international morality and fair and upright dealing."[1]

The sessions led off with the first Pacific conference of the Asiatic Institute on July 19, at Festival Hall in the morning and the Inside Inn in the afternoon, a conference devoted to a discussion of the general subject of "The Pacific as the Theater of Two Civilizations," and of "The World's Greatest Hereafter." The particular subjects of discussion were "American-Asiatic Relations," "Armament and Military in the Pacific," "Demands of Humanity in the Pacific," "Exclusion and National Policies in the Pacific," "Ownership and Exploitation of Pacific Regions," and "Conditions of Future Peace in the Pacific." The program announced that the object of the conference was to determine the basis for a proposed Congress of the Pacific, and that the idea back of it was to see

Peace of the Pacific

[1] *The Pacific Ocean in History*, The Macmillan Company, New York.

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whether history was to repeat, in the Pacific, evils such as make up a large part of the records of man in the Atlantic.

The principal speaker on the program was W. J. Bryan, but as his train from the South was two hours late, Col. John P. Irish, who had done much to help defeat him for the presidency of the United States in 1896, undertook to stay the appetite of the audience until his arrival with a lay sermon on the meanness of race prejudice; and a good one it was, couched in all the Colonel's well-known eloquence and supported by the most pertinent considerations of fact. The question, he said, was not whether we were in favor of further immigration of Japanese laborers, but the just and humane treatment of the Japanese already rightly here. In years of business experience with them he had never had a Japanese evade a contract nor betray a promise.

Colonel Bryan came on with his illustration of the growth of armaments —the parable of the farmers living about one pond, to whom, in turn, the battleship agent sells one battleship, then two, then to the third farmer three to defend himself against the combined navies of his neighbors, by which time the first battleship is out of date and he sells Farmer No. 1 four new ones because there are four out against him; and all the farmers become expensive enemies to one another. In the course of his remarks he made the significant statement that "it takes two to keep the peace."

The parable was refuted at the afternoon session in the Inside Inn by Dr. Bullitt, Field Secretary of the Pacific Coast Department of the United States Navy League, who declared the trouble does not start with the battleship agent, but with one of the farmers whose family has outgrown his farm and who determines to seize the farm of his neighbor, and would if that neighbor did not get enough armament for his defense.

On the program were Dr. David Starr Jordan, Frederick McCormick, Secretary of the Asiatic Institute, Judge W. W. Morrow, John Barrett, Sidney L. Gulick, and others; and messages or papers were received from William Howard Taft, Charles W. Eliot, Horace N. Allen, Mabel T. Boardman, Viscount Chinda, Henry White, Thomas J. O'Brien, and Austin Cunningham. The congress adopted a resolution calling for a Congress of the Pacific Nations at Honolulu the following year.

There was meat for reflection in the address of Señor Don Rafael Altamira y Crevea, professor at Madrid, on "The Share of Spain in the History of the Pacific," delivered at the Fairmont Hotel.

The direction taken by Columbus in his first journey brought the Spaniards to the "Southern Sea." Had he taken a northerly slant, Spaniards instead of Englishmen might have colonized Virginia. Had he sailed a bit

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southerly their efforts might have been expended on Brazil instead of Peru and Chile. But Columbus came to the entrance of the Gulf of Mexico, opposite the thinnest part of the continental barrier, leading the great adventurers that followed to the point most easily penetrable to the Pacific, which thus became the central theater of Spanish activity. Throughout Spanish adventure in the Pacific there was a continuous devotion to the original idea of Columbus, that of getting to India; and it manifested itself in tremendous labors of exploration, northward and southward, some expeditions even going out under the command of women. As navigators and cartographers, Spaniards deserved the gratitude of the world, but in addition many of the great voyages of discovery attracted men who were scientists for the sake of science; so that it was said of Spain that "no nation has made greater sacrifices for the advancement of botany"; that "since the foundation of society, in no other epoch had widened so marvelously and suddenly the circle of ideas touching the exterior world and the relations of space"; and that "Spanish descriptions of American countries are distinguished for their precision"—this last the judgment of the great British geologist Lyell.

What Spain has Done

Besides the American coasts on the west, except for some small regions far north, "a large portion of the islands of the Pacific also owe their discovery to Spanish sailors, who threw themselves into the work with tenacity and vigor, unmindful of perils which, as one author has observed, caused more than 80 per cent of them to perish in those hazardous voyages; and all this without producing in two centuries any stoppage of the current of adventure while at the same time it left behind a glorious record of discoveries and descriptive studies. . . .

"If to all this immense labor is added the intentional introduction into America of over 170 species of plants and animals here unknown hitherto, some of which throve and became characteristically American; and if we add the introduction into Europe of trees and plants such as the potato, the tomato, Indian corn, the pita, the aguacate, the batata, the Chilian and Virginian strawberries, etc., we shall have a well-rounded picture of useful and civilizing labors, material as well as spiritual, which the Spaniards effected in their contact with the new lands discovered upon the shores of the Atlantic and the Pacific. . . . Although all the accusations against Spain should be true, these censures would not invalidate the importance of any of the services to civilization just enumerated. . . . They will never be able to invalidate the reality nor destroy the merit, first, of our laws of the Indies; second, of the long line of our humanitarian writers or of our jurists of refined legal judgment; or third, of the long roll of our benevolent and

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charitable men, humane toward the Indians and faithful to professional duty, whom our history unquestionably presents."

To this, the Madrid historian appended a statement of social values, the "imponderables" that tilt the world, tremendous beyond all measurement in their lasting inspirations.

"And yet, to that moral and judicial example which Spain, during those centuries gave to the world, we may add another spiritual and practical lesson which is not one of the least of our labors in all parts to which we carried our activities, chiefly to the New World. The lesson I refer to, there is perhaps no nation more apt to comprehend in all that it signifies for life than the people of North America. It springs from a common fund of moral qualities, that is, spirit and will, which both Spaniards and North Americans have exhibited at various times when confronting similar needs of life. These qualities are endurance in suffering, serenity in danger, energy in strife, and valor in difficulties, which made possible among you the epic of the West and the Far West, and which shone with such remarkable lustre among our discoverers and conquerors."

Heroic Qualities

That statement was epitomized and confirmed by Judge John F. Davis the following evening in his address at Native Sons' Hall, on "The History of California," quoting Charles F. Lummis to this effect: "We love manhood; and the Spanish pioneering of the Americas was the largest, longest, and most marvelous feat of manhood in all history." The California historians, Theodore Hittell and Zoeth S. Eldredge, sat on the platform as Judge Davis spoke. Of the antiquity of California in history, the speaker of the evening supplied some striking illustrations in the way of comparative chronology. "Balboa discovered the Pacific Ocean 276 years before the French Revolution began. Cabrillo sailed into San Diego harbor four years before Martin Luther died. Sir Francis Drake careened the 'Golden Hind,' under the lee of Point Reyes before Shakespeare had learned his alphabet. Junipero Serra founded our Mission of St. Francis of Assisi in the same year that the Liberty Bell rang out the Declaration of Independence." And here he declared was the first New England on the continent, so named by Drake 41 years before the "Mayflower" reached Plymouth Rock.

Of later California history Judge Davis gave this vivid sketch, which must suffice as an index to his interesting paper.

"The past of California possesses a richness of romantic interest, a variety of contrast, a wealth of resourcefulness, and an intrinsic importance that enthralls the imagination. The Spanish exploration initiated by Cortez and afterwards revived by Galvez, a marvelous drama of world politics on these western shores, the civilization and colonization of the Missions by

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GRAND TRUNK HEADQUARTERS IN THE GROUNDS

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the Franciscan fathers, the presidios of the Army, the meteoric visit of Sir Francis Drake and his brother freebooters, the ominous encroachments of the Russian outposts, the decades of the pastoral life of the haciendas and its princely hospitality culminating in the 'splendid idle forties,' the petty political controversies of the Mexican régime, and the play of plot and counterplot 'before the *gringo* came,' the secret diplomatic movements of the United States to insure the blocking of possible Russian, French, and English intrigue, the excitement of the conquest and the governmental problems of the interregnum following the Mexican war, the story of the discovery of gold and its world-thrilling incidents and of the hardship and courage of the emigrant trail, the constitutional convention at Colton Hall and the unique method of the State's admission into the Union, the era of the Yankee clipper ships, the strenuous fight to save the State to the cause of freedom, culminating in the Broderick-Terry duel,—these and later civic events make a story absolutely kaleidoscopic in its contrasts and variety."

And how has this romance been cultivated in the imagination of the Americans, the richest and most fertile national imagination that exists in the world to-day? Said Judge Davis to the Panama-Pacific Historical Congress:

"Why should the story remain practically unknown? Why should every little unimportant detail of the petty incidents of Queen Anne's War, and King Philip's War, and Braddock's campaign be crammed into the heads of children who until lately never heard the name of Portola? The beautiful story of Paul Revere's ride is known to everyone, but how many know the story of the invincible determination demonstrated in the building of Ugarte's ship? Why herald the ridiculous attempt of Rhode Island to keep out of the Union and not acclaim the splendid effort of California to break into it? How many have ever read the proclamation of Commodore Sloat to his Marines when he sent the landing party ashore to hoist the colors at Monterey,—a proclamation that has all the dignity of a ritual and should be learned by heart as a part of his education by every schoolboy in California? . . . . Gentlemen of the American Historical Association, we simply ask that California be given her proper proportionate place in the history of the country."

Romance of the West

A chapter of Pacific history little known to Westerners, was unfolded during the session in the History Building at Stanford University, in the address of Dr. Naojiro Murakami, President of the Tokyo Foreign Language School, and representative of the Japanese Government, on "Early Japanese Attempts to Establish Commercial Relations with Mexico." These dated from the days of Iyeyasu, greatest of the Shoguns, at the beginning of the seventeenth century.

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According to Dr. Murakami's account, the "San Buenaventura," a Japanese ship with a Spanish name, built by Will Adams the English pilot, left Uraga on August 1, 1610, with the first Japanese merchants to New Spain and an envoy from Iyeyasu to the court at Madrid, arriving at Acapulco toward the end of October.

An expedition was about sailing from Mexico for the Gold and Silver Islands. Nobody knew just where in the Pacific this bimetallic Paradise was, but if the Spaniards had always stopped for such information they would have had little success as discoverers. The expedition was to go to Japan, build a ship and provision it, and then proceed to its interesting destination. The commander was Sebastian Vizcaino, well known in California and Pacific Coast history, and he set sail from Acapulco (presumably by the Manila galleon) on the 22nd of the following March. The 23 Japanese merchants went home in the same ship, with cloths, velvets, wines, and other merchandise. Vizcaino was made ambassador to thank Iyeyasu, and he took along some gifts, among which were portraits of the King and Queen of Spain. He failed to find the Gold and Silver Islands, aroused the suspicions of the Japanese, who in time resented his visit, tried to build himself a new ship to take the place of the old one, which had become unseaworthy, but failed for lack of funds, and altogether put in a very bad year; finally returning in a ship built by one of the great Däimyos who was eager to send an embassy to Spain in the interests of trade.

Spain and Japan

There followed developments in which Macao, Manila, and New Spain all figured as rivals for the Japanese trade. The Council of the Indies reported to the King of Spain that it would be advisable to open commerce with Japan through Mexico. The embassy from the Däimyo Musamune was received by King Philip III and sent on to Rome. The Pope received it cordially and promised his help, and the Roman Senate made the Japanese head of the embassy, Hasekura, a patrician, and presented the chief members with the citizenship of the Eternal City. On its way back to Spain, the embassy was entertained by the Grand Duke of Tuscany and the Doge of Genoa. All this in the year 1614, and a few following. In the meantime Japanese policy underwent a change. Persecution of Christians began, and the islands went into their two and a half centuries of seclusion. Thus these early attempts failed, and history forgot them, and they were not revived until the United States, through Commodore Perry, wrote another chapter in the relations of the countries of the Pacific.

Forgotten History

A long list of eminent scholars contributed papers to this congress, and

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thus added the fruits of original research to Pacific Ocean history. Among them were Prof. Leon Maria Guerrero of the University of Manila, Dr. James A. Robertson, librarian of the Philippine Library, whose paper on an ancient Bisayan criminal code, antedating the Spanish conquest, was most interesting; David P. Barrows, of the University of California, afterward its President; Joseph Schafer, of the University of Oregon, Clarence B. Bagley, of the University of Washington, Prof. William R. Manning, of the University of Texas, Señor Don E. Larrabure y Unanue, President of the Instituto Historico at Lima, Prof. Herbert E. Bolton, of the University of California, and Karl C. Leebrick of the same institution, Frank A. Golder, of Washington State College, Fr. Zephyrim Engelhardt, O. F. M., of Santa Barbara, historian of the Franciscan Missions of California, Prof. Thomas M. Marshall, of Stanford University, Prof. K. Asakawa, of Yale University, and Aurelio M. Espinosa, of Stanford University.

Good audiences greeted the speakers at all the sessions of this congress. It made history live, and, suitably enough, the history it vitalized was that of which the Exposition itself was the latest development. Nobody could have attended these meetings without gaining understanding of the world forces that extended themselves with European civilization and the white man's commerce into the last and largest of the seas.

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CHAPTER XIV

THE ADVANCEMENT OF SCIENCE

THE Exposition brought the Association for the Advancement of Science to the shores of the Pacific, for the first time in the sixty-seven years of the Association's history. Suitably, a large number of the topics discussed were topics of the Pacific area. Were science a local thing it might be claimed that the deliberations were under the presidency of a local scientist, but as to that it can only be said that the locality was fortunate enough to possess one of the most eminent scientific authorities of the world, dealing, as his life work, with the universal science of astronomy: William Wallace Campbell, Director of Lick Observatory of the University of California. He was at the head of the Association in the year 1915.

Scientists in the West

Over 90 sessions of the Association, of sections, and of affiliated societies, were held during the week of meetings, and the total registered attendance approximated 700; from 44 States and territories, the District of Columbia, the Philippines, and ten foreign countries. But by no means did the number registered represent the total attendance, for the sessions were very attractive and drew heavily from the populations of the Bay cities and from the visitors to the Exposition from all parts of the world.

The arrangements for this meeting were put into the hands of the Pacific Coast Committee of the Association, composed of: W. W. Campbell, of the Lick Observatory, University of California, Mount Hamilton, Chairman; Albert L. Barrows, of Berkeley, Secretary; and Maxwell Adams, University of Nevada, Reno; J. C. Branner, Stanford University; Melvin A. Brannon, University of Idaho, Moscow; Enoch A. Bryan, State College of Washington, Pullman; William A. Bryan, College of Hawaii, Honolulu; H. S. Carhart, Throop College of Technology, Pasadena; C. L. Edwards, Los Angeles; William T. Foster, Reed College, Portland; George E. Hale, Mount Wilson Solar Observatory, Pasadena; M. W. Haskell, University of California; Eugene W. Hilgard, University of California; George H. Howison, University of California; Oliver P. Jenkins, Stanford University; David Starr Jordan, Stanford University; Vernon L. Kellogg,

The Committee

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AUTOCHROME BY CHARLES J. BELDEN

A DOORWAY OF THE COURT OF PALMS

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Stanford University; Charles A. Kofoid, University of California; A. L. Kroeber, University of California; Henry Landes, State University of Washington, Seattle; Andrew C. Lawson, University of California; A. O. Leuschner, University of California; E. Perceval Lewis, University of California; James H. McBride, Pasadena; D. T. MacDougal, Desert Laboratory, Carnegie Institution, Tucson; Lillien J. Martin, Stanford University; John C. Merriam, University of California; Joseph F. Merrill, University of Utah, Salt Lake City; Agnes Claypole Moody, Berkeley; William Emerson Ritter, Scripps Institution for Biological Research, University of California, La Jolla Marine Laboratory; H. J. Ryan, Stanford University; Fernando Sanford, Stanford University; William A. Setchell, University of California; John Maxon Stillman, Stanford University; Lyman Brumbaugh Stookey, University of Southern California, and Benjamin Ide Wheeler, President of the University of California.

Of the significance of the gathering that followed upon the exertions of this committee, Dr. Henry Fairfield Osborn, President of the American Museum of Natural History, has said in "Science":

"It is not too much to say that this meeting of the Association was an event of real importance in the scientific development of our country. While the Exposition is in a measure a summary of the world's progress in the arts and applied sciences from the time when the great westward migration began from Asia some 25,000 or 30,000 years ago, our Association meeting was very wisely planned throughout to bear chiefly a Pacific-Coast and Pacific-Ocean character. This field in itself is a very large one, and it was broadened by including the relations which the Pacific region in general bears to other parts of the world."

The sections and societies meeting independently or in conjunction with these sections, were as follows:

Section A, Mathematics and Astronomy; Section B, Physics; Section F, Zoölogy; Section G, Botany; Section H, Anthropology and Psychology; Section L, Education; Section M, Agriculture; Astronomical Society of the Pacific; American Astronomical Society; American Mathematical Society; American Physical Society; Geological Society of America and the Cordilleran Section; Paleontological Society; Seismological Society of America; American Society of Naturalists; American Society of Zoölogists; Biological Society of the Pacific; Entomological Society of America; American Association of Economic Entomologists; Pacific Slope Association of Economic Entomologists; American Phytopathological Society; American Fern Society; American Psychological Association; American Association for the Study of the Feeble-Minded; American Anthropological Association;

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Archeological Institute of America; American Genetic Association; Association of American Dairy Food and Drug Officials.

The opening session was held on a Monday morning, August 2, in Scottish Rite Hall, San Francisco. The Exposition, through Vice-President W. H. Crocker, welcomed the members, and there were other addresses of welcome by Benjamin Ide Wheeler, President of the University of California, and David Starr Jordan, Chancellor of Stanford University, followed by a response from Dr. Henry Fairfield Osborn. Many eminent scholars were present, including the venerable George H. Howison, Mills Professor of Philosophy in the University of California, then in his eighty-first year. And after some announcements by L. O. Howard, permanent Secretary, the large audience sat back to listen to the address of the President of the Association, Dr. Campbell, on "Science and Civilization."

It is not possible to do more than hint here at the scope of this address and its grip on the greater problems of science and of human development. It was one of the inspired and inspiring utterances of the Exposition year. It was of generous length and crammed with significant fact, from which abundance we can but present a few excerpts.

"The remarkable advance in the civilizations of the leading nations during the past four centuries has been due chiefly to the daily and hourly influences of accurate knowledge and scientific method. . . . The scientific spirit is almost unknown among the Turks, the Moroccans, the Mohammedans in general, the Hindoos, the Egyptians, the Chinese. . . .

"The unscientific nations are threatened with absorption by their more scientific neighbors, not so much because they do not invent or perfect the most powerful cannon, the sturdiest dreadnaught, the speediest aeroplane, or the subtlest submarine, but because the scientific people forge ahead of them in the arts of peace, in the modes of thought, in the affairs of daily life. The unscientific peoples are without influence in the world, not because they are unwarlike—but because they are lacking in the every-day efficiency which accompanies the scientific spirit. . . .

Science is Power

"The conception that all matter in the Universe is endowed with the property of obeying law—unalterably obeying law—is incomparably grander than the conception of one law prevailing here, another law prevailing there, of irresponsible caprice operating both here and there. . . .

"A Greek science never existed. Excepting the geometry of Euclid and Archimedes, we may say that nothing was proved and that no serious efforts were made to obtain proofs. There could be no scientific spirit in the Greek nation as long as the Greek religion lived and the Greek people and govern-

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ment consulted and were guided by the Greek oracles. If there had been a Greek science, equal in merit with modern science, think you that stupidity and supersitition could have secured a strangle hold upon Greek civilization and have maintained a thousand years of ignorance and degradation?

"Intellectual life could not prosper in Europe as long as Dogma in Italy, only 300 years ago, in the days of Bruno and Galileo, was able to say, 'Animals, which move, have limbs and muscles; the Earth has no limbs nor muscles, therefore it does not move'; or as long as Dogma in Massachusetts, less than 250 years ago, was able to hang by the neck until dead the woman it charged with 'giving a look toward the great meeting-house of Salem, and immediately a demon entered the house and tore down a part of the wainscoting.' It was the rebirth of science, exemplified chiefly by astronomy, and secondarily by medicine, which gave to the people of Europe the power to dispel gradually the unthinkable conditions of the Middle Ages. . . .

"We have not yet seen little earths revolving around any stars except our own, nor do we know that intelligent beings live upon such planets and are looking down toward our system and seeing our Sun as a little star in their night sky; but everybody now holds as absurd the view that our star is the only one of the hundreds of millions of stars which has little planets revolving around it, or that our Earth is the only body that is inhabited by intelligent life. Can there be a more inspiring thought than that intelligent beings are probably living here and there throughout the universe, in whatever direction we may look?

"The spectroscope has shown that the chemical elements which compose the Earth are also the constituents of our Sun and of the other suns. We have no reason to doubt that the chemistry of the Earth is the chemistry of the Universe. . . .

"The purpose of the American Association is the advancement of science in all its branches. Its scope is sufficiently broad to include every subject that is studied scientifically. . . .

"It is now quite difficult to find a subject that is not being studied scientifically somewhere by somebody. It is this fact which accounts for the phenomenal progress of civilization in the past half century, and especially in the past thirty years.

"The discoveries in preventive and curative medicine undoubtedly rank amongst the most valued contributions to civilization in the entire range of scientific research. . . .

"It is so well known as to be a trite subject that electricity was studied fully a century, following Volta and Galvani, before it was seriously applied to the arts. It is not so well known that the immense value of electricity in

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every-day life, as applied by the electrical engineers, is due chiefly to the work of two men: Faraday in the Royal Institution of London, who, studying electricity as a pure science and with no apparent thought for its possible applications, discovered the principles of magneto-electric currents, upon which all modern dynamos and transformers, electric lighting, telephoning and telegraphing, and the transmission of power depend: and Maxwell, of Cambridge University, who wrought Faraday's results into a foundation of complete and rigorous theory upon which future electrical engineers might build.

"The X-rays and radium are the products of research in pure science, and quite regardless of so-called utility; yet what is to-day more useful than the X-rays, and what promises greater usefulness than radium and its related radio-active substances?

"Pure science studies, in the broad fields which we may call botany and chemistry, have made scientific agriculture possible. We cannot exaggerate the importance of science in farming, for the future of the human race. . . .

"Wireless telegraphy has been a priceless servant to those whose friends go down to the sea in ships. It has averted many frightful disasters in the past decade. This branch of electricity was made possible by the researches of the lamented Herz and others who studied the properties of electrical waves as we study the light waves from the nebulæ—from the point of view of pure knowledge. . . .

"The world is unable to compute its indebtedness to Edison, Bell, Marconi and other great inventors and business men combined, who have brought electricity to everybody's house and office, to every factory, to every village, to every ship, as an obedient and ever-ready servant. That these gentlemen have made commercial successes of their ventures seems to have caused certain persons to lose interest in them as men of science. I have no sympathy with that point of view. Only those who have tried it can know how much courage is required to risk everything in a new venture, how many hours of day and night are given to thought of the subject from all possible angles, how unceasing must be the maintenance of discipline in great business organizations. Not only is financial success doubly earned, and most desirable as an incentive to the succeeding generation, but financial success is absolutely synonymous with making the subject useful to mankind. . . .

Success is Service

"The value of science as a factor in advancing the race depends at least as much upon the applied as upon the theoretical side. . . .

"The human race needs above everything else the conviction that the principles of science rule everywhere, and that problems of personal and

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TABLET TO THE FLYING MEN; COLUMN OF PROGRESS

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national life are not solved as long as any important forces are ignored. It is the idealism of pure knowledge, the idealism in applied knowledge, in industry and commerce, in literature and art, in personal religion, which leavens the life of the world and pushes forward the boundaries of civilization."

Other general meetings of the Association as a whole included three public evening addresses, which were presented in San Francisco (in Scottish Rite Auditorium) on Tuesday, Thursday, and Friday evenings, August 3, 5, and 6.

On the first of these evenings Reginald Alsworth Daly, of Harvard University, presented certain "Problems of the Pacific Islands." He said in part:

"Beyond the Pacific is the Old World, rapidly yielding its last secrets to its own peoples. Is not the piercing of Panama a suggestion, a brilliant symbol, for American geographical science? The Golden Gate is not the end of the world for it. Already Dana has made immortal the Wilkes expedition to the South Sea; Brigham at Honolulu has long been a clearing house for ideas regarding the culture of Polynesia; Agassiz has lavished his vast energies in reconnaissance of the Pacific islands; Californians have brought rich scientific booty from the Channel Islands and from Galapagos; the founding of a volcanological observatory in Hawaii is an important step in the American exploration; two Harvard expeditions to the southwestern Pacific within the last eighteen months deal with island problems full of meaning for general science. To the many researches of individuals are to be added those of government bureaus—Hydrographic Office, Coast and Geodetic Survey, Geological Survey, and Fish Commission—operating chiefly on mainland and island coasts which are under the American flag.

"To the Government bureaus, or scientific bodies of the different nations concerned, may be assigned the duty of scientific exploration in the Aleutian, Kurile, Japanese, and East Indian archipelagoes; but Polynesia, Micronesia, and Melanesia need different treatment. My thesis to-night is that the thorough study of these oceanic islands offers a highly desirable program for large-scale private enterprise in science, and that the program is highly appropriate for American enterprise in particular.

"The systematic exploration of archipelagoes which are under a half-dozen flags, obviously cannot be undertaken by any government, but with private association the citizens of America are perfectly capable of attacking the task in pure science, which is at once less than, and greater than, the cutting of the Panama Canal. Among the many projects submitted to this

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society for the advancement of science, no other seems more fitting on the present occasion; no other would seem more certain to yield new and important results."

The petrography of the volcanic islands should be described, he said, and broad questions as to the origin of the lavas and the nature of volcanic action are here not only insistent but are likely to have final answers in the Pacific islands sooner than anywhere else. On account of its bearing on the geology of the whole globe, the explanation of the coral islands should be treated in special detail. A similar canvass of problems in zoölogy, botany, or anthropology would emphasize the need of a general scientific exploration of the deep-sea islands in the immediate future. This was a most interesting paper, presenting a relatively new theory of island geology—that of glacial control in the formation of atolls, rather than the old subsidence theory of Darwin and Dana, but presenting it to be checked by diamond drill borings at several different localities in the Pacific islands and lagoons, plans for which should be included in an organized field campaign.

New Theory of Atolls

The general address of Thursday evening, August 5, was by William Berryman Scott, of Princeton University, on "The Isthmus of Panama in its Relation to the Animal Life of North and South America." There was strong reason to believe, said Professor Scott, that the same group of animals never originated independently in two or more disconnected regions. In the earlier part of the Tertiary period, Central America and the Isthmus of Panama were submerged, a broad sea separating North and South America. In consequence of this separation, South American animals, to judge from the Santa Cruz fossil beds of Patagonia, developed along highly peculiar lines, while North America, because of its frequent connection with the Old World, remained true to the type that prevailed over the whole northern hemisphere. The beasts of prey in South America were all marsupials, resembling those of Australia. The many hoofed animals all belonged to groups which were now extinct and have never been found outside of South and Central America. The frequent land connection of North America with Asia, by way of what is now Behring Sea, was clearly reflected in its mammals, so that the northern portion of the former continent belongs to the same zoölogical region, which includes Europe and nearly all of Asia. South American immigrants were very few, the short-tailed porcupines and probably the opossums being the only living representatives of such intruders.

Broken Hemisphere

On the other hand the number of migrants from North to South

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America had been very large, including all the beasts of prey, the wolves, cats, weasels, skunks, otters, raccoons, and one species of bear; all the hoofed animals, the tapirs, peccaries, llamas, and deer; and all the rabbits, squirrels, rats, and mice.

On the following evening the attention of the members was led into the field of scientific commerce by His Excellency Dr. Paul Samuel Reinsch, American Ambassador to China, who presented an address on "The Future Economic Development of the Pacific Area." Among the important problems in this field were, according to the speaker:

1. The effect of new routes of communication on the currents of commerce.

2. The greatly increased relative importance of New York as a central money market, and the attendant consequences of this change upon the organization of credit and industry in South America and the Far East.

3. The extent of, and control over, iron, copper, and gold supplies and, supplementary to these supplies, over water power.

4. The mutual adjustment and gradual equalization of the scale of living on a modern basis of sanitation and labor efficiency.

5. The effect of the application of modern standards of efficiency to economic life in South America and the Far East.

6. The adjustment of the old industrial and credit organization of China to new conditions and problems.

7. The probability of a permanent mutuality of demand and supply between the different countries of this region, especially between the United States and the Far East, and the United States and South America.

8. The determination of economic life in this region by more general international, or more closely national, interests and methods.

"The rapidity and extent of economic progress in the entire Pacific region will depend to a large degree upon the liberality and enlightenment of the economic policy of all concerned; in this important matter it is necessary to understand and act upon the principle that the economic development of any region tends to benefit those nearest concerned in a measure as it is conducted with a view to interesting the largest possible number in the welfare of such a country, area, or continent.

"Much is to be said in favor of establishing free ports for transit goods at such points as Panama, Honolulu, and Manila."

The joint session of Section A, Mathematics and Astronomy, at the University of California, on August 3, demonstrated that mathematicians can produce literature; for it brought forth the address on "The Human Signifi-

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cance of Mathematics," by Prof. Cassius J. Keyser of Columbia University, a rare sort of thing that lifted the science of numbers out of its dusty bin, and gave it such philosophical direction and poetic appeal as this:

"Our pure mathematician, in speaking to his fellow men and women of his science, will have no difficulty in persuading them that he is speaking of a subject immense and eternal. They are thus prepared to believe that behind the veil there exists a universum of exact thought, an everlasting cosmos of ordered ideals, a stable world of concatenated truth. They may even in a vague way magnify it overmuch, feeling that it is in some wise more than human, significant only for the rarefied, gifted spirit that dwells, like a star, apart. . . . Our pure mathematician must rally his sceptics with sharper considerations. He may say to them: You challenge the human significance of the higher developments of pure mathematics because they are inaccessible to all but a few, because their charm is esoteric, because their deeper beauty is hid from nearly all mankind. Does that consideration justify your challenge? You are individuals, but you are also members of a race. Have you as individuals no human pride in the highest achievements of your race? Is nothing human, is nothing humane, except mediocrity and the commonplace? Was Phidias or Michael Angelo less human than the carver and painter of a totem pole? Was Euclid, or Gauss, or Poincaré less representative of man than the countless millions for whom mathematics has meant only the arithmetic of the market place or the rude geometry of the carpenter? Do you not count aspiration humane? Do you not see that it is not the common things that everyone may reach, but excellences high-dwelling among the rocks—do you not know that, in respect of human worth, these things which but few can attain, are second only to the supreme ideals attainable by none?

Racial Achievement

"In respect of temperamental interest, of attitude and outlook, the difference between the pure and the applied mathematician is profound. It is—if we may liken spiritual things to the things of sense—much like the difference between one who greets a new-born day because of its glory, and one who regards it as a time for doing chores. . . .

"I can think of no other spectacle quite so impressive as the inner vision of all the manifold branches of rigorous thought seen to constitute one immense structure of autonomous doctrine reposing upon the spiritual basis of a few select ideas and, superior to the fading beauties of time and sense, shining there like a celestial city, in 'the white radiance of eternity.' That is the vision of mathematics that a student of its philosophy would, were it possible, present to his fellow men and women. . . .

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SALONE REALE, ITALIAN PAVILION

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"Who is so unfortunate as not to know something of the religious awe, the solace and the peace that come from cloistral contemplation of the purity and everlastingness of mathematical truth?

"In genesis, in spirit and aspiration, in motive and aim, natural science, theology, philosophy, jurisprudence, religion, and art are one with mathematics: they are all of them sprung from the human spirit's craving for invariant reality in a world of tragic change; they all of them aim at rescuing men from 'the blind hurry of the universe from vanity to vanity': they seek cosmic stability—a world of abiding worth, where the broken promises of hope shall be healed and infinite aspiration shall cease to be mocked."

Modern Observatory

The work of a modern observatory was sketched by Dr. George Ellery Hale of the Mount Wilson Solar Observatory, Pasadena. Lantern slides and experiments illustrated his lectures. Comparatively few astronomical observations were being made visually, the photographic plate having taken the place of the eye in large degree. The spectroscope, once a minor accessory of the telescope, was now more properly regarded in some classes of work as the primary instrument. There was also the interferometer in various forms, the Michelson echelon and the Lummer-Ghercke parallel plate, all for light analysis. "Instruments of surprising sensitiveness, including the thermopile, the bolometer, the radiometer, the radiomicrometer, and the selenium and photo-electric cell, have brought to knowledge relations far beyond the range of the eye or the photographic plate, and disclosed stellar variations in brightness too minute for former devices to reveal."

The bolometer would measure heat to a millionth of a degree, and in conjunction with the improved pyrheliometer had already proved the Sun to be a variable star.

The heat that reaches us from the stars was being measured by Coblentz at Mt. Hamilton. A radiometer sensitive to the light of a candle five miles away had measured the heat radiation of Arcturus and Vega at the Yerkes observatory in 1900. And the heat of stars beyond naked-eye visibility was also being measured. The thermopile of Coblentz was sensitive to the radiation of a candle 53 miles distant. Michelson had recently ruled a ten-inch diffraction grating having about 622 lines to the millimeter. The address closed with certain tests of a vortex hypothesis of Sun spots.

The twelfth annual meeting of the American Genetic Association, held in connection with the Association for the Advancement of Science, brought to the series the results of practical research into heredity, and scientific opinion on the current question of eugenics. The meetings were marked

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by the general feeling that closer coöperation was needed between the breeder devoting himself to pure research, and the breeder whose work is wholly commercial. Said President David Fairchild who is connected with the United States Department of Agriculture:

"In my opinion the greatest service we can do genetics is to make its results available to the layman. I have no patience with those men of science who think their work loses dignity if it is put in simple English."

Breeding and crossing in all their possibilities were discussed, and the discussions led up to the breeding of better men and women, a notion that had been much exploited and had perhaps shown a tendency to run to seed. So the remarks of Wilhelmine E. Key, of the State Training School of Polk, Pa., were salutary. The rôle of eugenic laws should be to hasten the elimination of bad stock, rather than to interfere with the free choice of the average young man and woman. Too great stress on ideal fitness gave us the ingrowing eugenic conscience. Just as current thought was becoming imbued with scientific conceptions, so we might expect that the gradual recognition of such principles as that of segregation in individual pedigrees would lead to free conscious selection along a multitude of able lines. This would give predominance to the best-endowed strains, insure manifold variety, and solve many of the problems of practical eugenics without the necessity of legal enactment.

Breeding Better Men

It is impossible even to list here all the addresses delivered at the 90 sessions of the Association and affiliated societies, but the plan of joint meetings greatly broadened the scope of the discussions, and hundreds of papers were produced by the world's authorities in science.

On Monday evening, August 2, a reception was tendered to the visiting scientists in the California Building. On Thursday afternoon, August 5, a garden fête was prepared for the visiting ladies and for the members of the Association and of affiliated societies, on the campus of the University of California. The sessions of sections and of societies on Wednesday, August 4, were held at Stanford University. Over 400 members and friends of the Association and affiliated societies were taken by a special train from San Francisco to Palo Alto. After a general session for addresses of welcome and of response, luncheon was served in Memorial Court of Stanford University. The visiting ladies were entertained at a musicale in Memorial Church, and, later in the afternoon, at tea in the Women's Club House. On Wednesday evening, upon the return from Stanford University, dinners of several sections and societies were held. Sessions of sections and of societies on other days of the week were held at the University of California, at Berkeley.

Special Journeys

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During the latter days of the week and in the week succeeding, these excursions were organized: For mathematicians and astronomers, to the Lick Observatory at Mount Hamilton, including a visit to the home of Mrs. Phoebe Apperson Hearst near Pleasanton. For geologists, to Hunter's Point, San Francisco, for an examination of Franciscan formation; to Point Reyes Station, Marin County, for an examination of the San Andreas fault and rift; to Lassen Peak, Shasta County, to note the recent volcanic activity of that mountain; to Mount Diablo, Contra Costa County, to examine the series of strata composing the geosyncline between the Bay of San Francisco and Mount Diablo; and to the Yosemite Valley region. For paleontologists, to the shore of San Pablo Bay to examine localities for Cretaceous, Tertiary, and Pleistocene faunas; to the Mount Diablo region; to the Ricardo Pliocene beds of the Mojave Desert; to the Pleistocene asphalt deposits of Rancho La Brea, near Los Angeles; and to the marine Pleistocene deposits near San Pedro. For zoölogists and botanists, to Muir Woods and Mount Tamalpais, and for botanists to the Yosemite Valley and to the Monterey Peninsula and the Carnegie Desert Laboratory at Carmel.

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CHAPTER XV

WHAT SHALL THE WORLD BE TAUGHT?

IN addition to being the largest gathering of the Exposition, with a registration of 6,550 and a total attendance probably double that, the Fifty-third Annual Convention of the National Education Association and the Third International Congress on Education was most interesting to the student of human progress, for it illustrated those strong cross currents of purpose that characterized the efforts of educational leaders in the decade just preceding the German war.

In point of numbers and intellectual attainment of those attending, in addition to their influence on what future generations of Americans were going to think about life, this was one of the most important of all the congresses that met under Exposition auspices; a forum of tremendous ideas, characterized by Edward Hyatt, State Superintendent of Public Instruction, as a "vast assemblage of the complex activities and emotions that have grouped themselves about the general idea of education." Yet it was evident that, at least in regard to detail and at many points in regard to substance, these ideas and sentiments were in a healthy state of flux.

Thought and Life

Education had trained the public mind to habits of more or less critical analysis, and had then become the subject of it. People were asking what its real values were. Nobody seemed exactly satisfied with education—either his own or that which the schools administered to his or his neighbor's children. The war itself appeared as a conflict of opinions flowing from radical educational differences expressing themselves in hostile ideals. Economic pressure, beginning to exert itself in this country in ways not distinctly foreseen while it was a country of free land and limitless opportunity, had set people wondering whether culture for the masses was worth the time the masses were invited to put into it. Should Latin and literature give place to vocational training, was it more important to learn a trade than a philosophy, could the "humanities" safely be neglected for a course in wiping joints and cutting and threading pipe? Should children be taught sex hygiene in school, should text books be free, should spelling be

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AN ENTRANCE TO THE PALACE OF EDUCATION

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reformed, should cooking or morality be taught, should the Bible be admitted, could it be excluded, should work be turned into play or had it some disciplinary value in itself, should kindergarten methods be extended into the grade schools? All these problems and more received attention from some of the most eminent educators in the world, or from others that reflected their views, in the largest gathering of the sort ever held in the history of the organization, forming one of the most interesting arenas of the time.

Pressing Problems

The convention and congress met at Oakland, from August 16 to 27 inclusive, with most of the sessions in the Oakland Municipal Auditorium. Registration and accommodations headquarters were in the Chamber of Commerce Building; and these places, together with Ebell Hall at times, and the Oakland Hotel, swarmed with the concourse of visitors and delegates. There were 12 general meetings of the International Congress on Education, and 54 meetings of departmental congresses. Twenty different related organizations held 49 meetings during the week. At times a dozen departmental congresses were going on at once.

The international element was pronounced, the representation from foreign countries, either in person or by paper (and mostly it was in person), including such names as Ferdinand Buisson, of France, member of the Chamber of Deputies for the Department of the Seine; Ernesto Nelson, Director of Secondary Education in the Argentine Republic; C. W. Crook, Vice-President of the English National Union of Teachers; Mark Cohen, editor of the Dunedin, New Zealand, "Evening Star"; Anton H. Appelmann, of Münster, Germany, representing the Prussian Kultusministerium; Michael E. Sadler, Vice-Chancellor of the University of Leeds; Benjamin Buisson, late Director of Education for Tunis; L. K. Tao, Professor of Sociology and Political Science at the Government University of Peking; Dr. Maria Montessori of Rome; Frank L. Crone, Director of the Bureau of Education, Manila; John Mez, of Freiburg; Jiro Harada, of Japan; V. Padmanaba Iyer, of India and San Francisco; Mrs. Philip Snowden, of Liverpool; Charles T. Loran, Inspector of Schools of Durban, Natal; Frederico S. De Tejada, of Guatemala; Kiyo Sue Inui, of Japan; Z. T. Nyi, of China; Sidney L. Gulick, of Kyoto; His Excellency Stephen Panaretoff, Minister from Bulgaria; Natalia G. V. De Morales, of Guatemela; Henry Holman, formerly Professor of Education in the University of Wales; L. A. De Wolfe, Supervisor of Agricultural Education, Truro, Nova Scotia; James Collins Miller, Provincial Director of Technical Education, of Alberta; John S. Potter, of Manila; Helen G. Cadwell, of Oahu College, Honolulu; Josefa Jara, of Iloilo; Rufino Martinez, of Manila; P. E. Quinn,

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of New South Wales; C. K. Harrison, of Victoria; North H. Foreman, of Manila; Frank G. Gamewell, General Secretary of the Educational Association of Shanghai; Enrique Loynaz del Castillo, of Cuba; Mirza Ali-Kuli Khan, of Persia; L. Shew of China; Vaughan McCaughey, of Honolulu; and Yomei Kin, M.D., Superintendent of Pei-Yang Women's Hospital, Tientsin, China.

In all, 31 countries were represented by officially accredited delegates or by speakers, so that the events had a more broadly international character than any similar gathering thus far held. And it was observed that the foreign representatives seemed as anxious to get the American viewpoint on education as to present their own. As part of the hospitality extended to the convention, a dinner was given in their honor at the Hotel Oakland by the Oakland Commercial Club. To the printed transactions of this congress we are indebted for extracts in this chapter.

Noted Leaders

Among noted American educators present, either by contribution or in person, were such names as Elmer E. Brown, Chancellor of New York University; Frederick W. Roman, Professor of Economics in Syracuse University; Dr. Thomas D. Wood, of Columbia; William L. Fisher, curator of the Philadelphia Commercial Museum; Frank Alvah Parsons, President of the New York School of Fine and Applied Arts; Charles F. Thwing, President of Western Reserve University; William T. Foster, President of Reed College, Oregon; Henry Churchill King, President of Oberlin College, and Hon. P. P. Claxton, United States Commissioner of Education.

Probably the most significant single feature of the congress was its reflection of the movement, then beginning, toward the scientific estimation of individual intelligence through the Binet-Simon tests, a movement that promised the ultimate grading or selecting of pupils according to their capacity to receive education.

The more intelligent educators had long been attempting to break the pedagogical lock-step in some such manner, but they worked at it a good deal by rule of thumb and without definite method. Now the scientific scale with its resulting "intelligence quotient" had come along, and to the enthusiast that had long sensed the need of it, this form of mental measurement appeared to be endowed with the mechanical precision of a good prune grader. Examination by the scale of tests determined the mental age of the subject and enabled the teacher to tell how that subject should be classed and classified to get the best intellectual and economic result.

There was a current idea that the purpose of such examination was the

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discovery and segregation of mental deficiency, but the thing had far more important aspects than that. It promised to reveal exceptional ability in pupils so that those better endowed than the average would not have to be retarded in their education to the pace the average set, but could be permitted to go ahead and make the most of their endowments. It promised to uncover special aptitudes for particular lines of work, so that development might proceed in the best direction, and it promised to form a scientific check on the impressions teachers harbored as to the intellectual powers of children. It was capable of some very practical applications. In the year following the Exposition it was made the basis of civil service examinations for policemen and firemen in the city of San José. Later it was widely applied in the American Army for the discovery of mental inferiority.

Finding Ability

In the course of the convention, Prof. Terman presented addresses on "The Mental Hygiene of Talented Children," and "The Stanford Revision and Extension of the Binet Scale"; both subjects of intense interest to the teaching profession.

The tendencies in education reflected by the congress were summarized by Elmer E. Brown, Chancellor of New York University. The preceding 15 years should not be regarded as the first 15 years of the 20th century, but the last 15 years of the age preceding the Great War. That was a distinct epoch, marked off and defined by the Spanish war, and one in which profound changes had taken place in the position and outlook of the United States. The period between our Spanish war and the Great War then raging in Europe was the period in which the Nation had really taken its place in the world. In education, those 15 years constituted a period in which the consciousness of world relationships had taken on a reasonable and workable form. It was the period in which we had been outgrowing subserviency on the one hand and arrogant provincialism on the other. It was the period in which we had made the greatest progress toward an attitude of self-respecting international coöperation. In the light of the events of 1917 these words were not merely history—they were as prophetic as any to be heard in that confused and dubious year.

In addition, the Chancellor pointed out the fact that ideas of universal education had broadened and there was a tremendous lateral expansion of educational activities and those activities related to education: libraries, lecture courses, playgrounds, community centers, pageants, moving pictures, boy scouting, girls' campfires, dancing, and dramatics. Increased attention was being given to the exceptional child. School courses were undergoing revolutionary changes in regard

Broadening Circles

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to vocational training. There were significant developments looking toward social service. There were more complete State organizations of State educational systems. There had been a great growth of private educational endowments. Standardization was proceeding. There was a huge increase in high school enrollment. One could see the beginnings of popular education for the fine arts and for art appreciation. And there were great improvements in pedagogy and teacher-training.

On all such subjects the discussions and expression of opinion throughout the convention were delightfully free, and ranged all the way from advocacy of military training in the schools because of the physical benefits it conferred, to opposition on the ground that it made boys stoop-shouldered.

The United States had not yet entered the war, and the theme of peace ran strongly through the meetings; at times appeared to dominate the congress. The President of the National Education Association and of the International Congress was David Starr Jordan, former President of Leland Stanford, Jr., University, then the foremost exponent of pacifism in America because the most scientific and the least emotional; and his opening address was a forceful exposure of that vice of written history, the over-emphasis of war. Too much history was written in blood, and thus was a mere picture of barbarism. The real substance of history was not war but the growth of man. There was too much teaching of children, through school histories, that their country was invincible on the battlefield except when overpowered two to one. "Legends of national victories make up the great fabric of spurious history and spurious patriotism that has been so potent in bringing on the war in Europe."

Unhealthy History

On August 20, the Council of State Departments of Education held a meeting in the ballroom of the Auditorium, under the chairmanship of Dr. Thomas E. Finegan, Deputy Commissioner of Education of New York. The subjects considered were: "Lines of Coöperation Between the National Commissioner of Education and the Heads of State Departments," discussed by Hon. P. P. Claxton, United States Commissioner of Education, and Hon. T. H. Harris, State Superintendent of Louisiana; "The Method of Exchanging Teachers Among Widely Separated Sections of the Country," by Hon. M. P. Shawkey, State Superintendent of West Virginia; and "The Relation Between State Superintendents and State Institutions of Higher Learning," by Hon. William Orr, Deputy State Commissioner of Education of Massachusetts.

Whether or not sex hygiene should be taught in the public schools was a pressing question just then, and Thomas M. Balliet, Dean of the School

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IN THE PORTUGUESE PAVILION

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of Education, University of New York, took occasion to utter warnings on the subject. It was a problem for educators to study, he contended, but the time for action was not yet. The motive was the preservation of health and right moral living, and instruction should not be dogmatic but based on scientific facts.

A problem of the time was that of the teaching of general morality and religion. A prize of $1,000 had been offered for the best essay on a practical method of introducing such teaching into the schools, and the award was announced at this convention. The contest was won by Charles E. Rugh, Professor of Moral Education in the Department of Pedagogy at the University of California, in a field of 432 contestants.

The example of France in the lay teaching of morality, and its effect as a support of the French nation in the World War, were set forth by Ferdinand Buisson, who described it as the most characteristic and original feature in the whole school system of the Republic. He spoke in French, and in effect he said:

"We have placed at the basis of education what we call *la morale laïque*. For, the State in France does not believe that it may abandon this function of teaching morality, this duty of moralizing childhood, so to speak, to the parents, to the families, to the churches, or to other private institutions. For more than 30 years the elementary school program, which no longer includes religious teaching, has found a place for moral instruction. The teacher is awakening in the child's mind the idea of what is good, of what is right and wrong, whose aim is to induce the child to love right for right itself.

Ethics in School

"Ladies and gentlemen, what is the value of this education? You may judge it at the present hour. A great crisis more tragic than could ever have been foreseen has arisen to put this education to the test, to estimate the price and value of this moral teaching of those lay teachers of duty.

"Men who had previously been far apart in education, in opinions, in creed, have found themselves standing together on common ground, side by side, facing peril, facing even death itself, and there they have judged one another. At the moment when one was unhesitatingly ready to sacrifice his life, he saw the other, his neighbor, perhaps his adversary in former times, quite ready to do the same. So that those two men who thought that there was apparently nothing in common between them, found on the contrary that they both had the same patriotic faith, the same capacity for devotion to the country. Jew and Christian, lay teacher and Catholic priest, Socialist and Conservative, have not only poured out their

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life blood for their country, but have, so to speak, sanctified their lives in heroism.

"They have found the same and only word which sums up for all—what they have felt and done—Duty, *le Devoir*. And this very word is also the word taught by our school, by our lay ethics. Every one is free to add to it what his heart, his reason, his faith suggests to him. The lay school does not kill faith; it kills only hatred."

One of the interesting papers illustrative of the growth of definite and scientific methods in teaching was that in which Elizabeth Ross Shaw, Director of the Evanston School of Mental Measurement, showed what was being done to discover just what it was that made this or that particular child so dull, or that other so bright.

A conference of text-book authors drew an attack on the free text-book system, as administered in California, from Mark Keppel, Superintendent of Schools of Los Angeles County. Cheapness, not quality, was the ideal, he contended, and another weakness was the tendency to patronize local authors instead of making superiority the test of the book. This was the first conference of text-book authors ever held.

Lack of preparation for rural school teaching was emphasized in the address by H. W. Foght, specialist in rural school practice in the United States Bureau of Education. It was a criticism of the old idea that almost anyone that can read and write and cipher can teach a country school.

"That the rural teachers now at work in the schools are deficient in preparation is proved in a study made recently by the National Bureau of Education. This investigation covered every State in the Union, and was carefully planned and carried out. The results were, in many respects, startling and yet not unexpected. The tabulations resulting from the investigation show, among other things, that 4 per cent of all the teachers now at work in the rural schools have had less than eight years of elementary school preparation; that 32.3 per cent have had no professional preparation whatever, and that only one-tenth of 1 per cent of these teachers report attendance at schools making a specialty of preparing teachers for rural schools. Many other interesting facts were revealed, such as these: Fully 25 per cent of all the teachers at work in the rural schools are men, as against 20.7 per cent for all the schools of the country. In the Southern States nearly one-half of all the rural teachers are men."

Rural Schools

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The wretched teaching of foreign languages in American public schools came in for some sharp criticism at the hands of Dr. Thomas M. Balliet, of the New York University, during the departmental congress on Vocational Education and Practical Arts. He recommended foreign language teaching in the sixth grade of the elementary schools—"Then we might hope to have students entering the University at least able to read and appreciate French and German, a thing the great majority of them are unable to do when they leave."

There were 22 sessions of the International Kindergarten Union as part of the main meeting. During one session Dr. Maria Montessori explained her methods, and made this significant statement:

"I believe that my system is founding a laboratory where the first germs of a science of men are visible, because of the precision of systematic means, and also because of the effect upon human development. Such a laboratory must, of course, be the school itself."

At one meeting S. W. Straus of Chicago, President of the American Society for Thrift, offered to pay the expenses of a committee to study the methods by which instruction in thrift might best be introduced into the public schools, and to furnish cash prizes of $750, $250, and $100 for essays on the subject. The arrangement was accepted and the President of the National Council of Education was authorized to appoint such a committee.

One of the most important and timely of the departmental congresses was the one on Vocational Education and Practical Arts. For better co-operation, the departments of the National Education Association formerly known as the Department of Industrial Education and the Department of Art Education were combined to form this new department, and its work was expanded to cover the home economics group of subjects as well. The meetings were held under the presidency of Arthur H. Chamberlain, Executive Secretary of the California Council of Education. The attendance was large, for interest in the subject was very keen, and the addresses and discussions were of a most profitable character.

The topic for the first meeting was "Vocationalizing Industrial Education." Under this general topic, Frank Alvah Parsons, President of the School of Fine and Applied Arts, New York City, spoke upon "Art and its Relation to National Growth"; Martha van Rensselaer, Professor of Home Economics at Cornell University, and head of the Home Economics Association, discussed the subject "Home Economics Applied to Life"; and

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James Collins Miller, Provincial Director of Technical Education for Alberta, Canada, spoke upon "The School Shop in its Relation to Bread Winning."

The second session of the congress was devoted to the subject of the "Economic Aspects of Vocational Education." The speakers were: Carroll G. Pearse, President of the State Normal School, Milwaukee, on "Vocational Education and the Labor Problem"; Dr. Thomas M. Balliet, Dean of the School of Pedagogy, New York University, New York City, on "Vocational Education in its Wider Implications"; and Richard G. Boone, University of California, Berkeley, on "Social Phases of Vocational Education."

Economic Education

A subject of general interest was the hot and healthy fight for the presidency of the Association, a sure sign that it was at least desired, and perhaps desirable. It was won by David Bancroft Johnson, President of Winthrop Normal and Industrial College, Rock Hill, South Carolina. Miss Grace M. Shepherd of Idaho was elected Treasurer. The Secretary was Durand W. Springer of Ann Arbor, Mich.

The work of the Committee on Resolutions, under the chairmanship of Ellwood P. Cubberly, Professor of Education at Stanford University, summarized the convention. The preamble said in part:

"Perhaps the greatest task which lies ahead of the school in all lands and countries is that of bending its energies toward the creation of a new order of international friendship, justice, and good will. Upon the public educational systems of each State and Nation lies the responsibility of enlarging the national conceptions and promoting good will among the nations of the earth. Entirely new values and standards for judging need to be created among the different peoples. In particular the school histories need to be rewritten and the teaching in history and geography in the schools needs to be entirely re-directed. The emphasis now placed on the deeds of the soldier should be shifted to those who have created the best of our civilization and rendered the most lasting benefits to mankind."

By one of its resolutions the Association congratulated the Panama-Pacific International Exposition on having made the official series of congresses the central feature of the Exposition, with education the most important feature of the series. "In the interest of world harmony we believe the splendid work of the Department of Congresses of the Panama-Pacific International Exposition should in some form be continued as a useful means of securing a concert of action among the nations and international associations."

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MURAL BY FLORENCE LUNDBORG

TEA ROOM IN THE CALIFORNIA BUILDING

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A suggestion for educational attachés of legations and embassies came from the representative of the Argentine Republic, Ernesto Nelson, and in the view of many participants represented the most progressive idea the congresses generated.

Some of the Needs

The topics of prime importance pressing on the attention of educators were indicated by the Resolution Committee to be, in brief, child welfare, rural education, school supervision by trained supervisory officers as distinct from teachers recently begun by universities, colleges, and larger normal schools, adequate salaries, security of tenure and retirement annuities for teachers, with more helpful working conditions, differentiations in instruction to meet individual needs, enlargement of the educational scope and the school fund, instruction in the underlying principles of religion, and the securing of more generous appropriations for the United States Bureau of Education.

A number of educational organizations held meetings during the two weeks of the International Congress on Education in order that their members might receive the benefit of attendance upon both gatherings. Those on the official program were: the Association of American Agricultural Colleges and Experiment Stations; League of Teachers' Associations; State and National Club Leaders; National Vocational Guidance Association; National Council of Teachers of English; School Garden Association of America; International Kindergarten Union; International Congress of School Women; Association of State Superintendents; National Association of Executive and Administrative Women in Education; American School Peace League; National Association of Teachers' Agencies; Conference of Text-book Authors; National Council of Geography Teachers; National Congress of Mothers and Parent-Teacher Associations; Associations for the Promotion of the Civic Education of Adults through the Wider Use of Schoolhouses; American Home Economics Association; the Religious Education Association; Montessori Congress; National Association of State Universities.

Saturday, August 21, was observed as National Education Association Day at the Exposition; and Sunday, August 22, was observed as Educational Sunday by the churches of Oakland. This was in addition to a brilliant series of special entertainments of various sections.

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CHAPTER XVI

WORK OF THE WORLD IN 1915

MORE and more the physical work of the world had been tending to get into the hands of the civil engineers. They knew material conditions and market conditions, they understood economics and were becoming a strong influence in finance. They were the men that got things done in the domain of the physical; their ranks furnished many of the modern efficiency experts. The importance of their profession was accentuated by the completion of the Canal; and the Exposition was not merely a celebration of that great engineering feat, but was itself to a large degree the product of engineering methods, and of conceptions and practices that engineers applied.

Generals of Work

The general public had thus heard more about engineering than ever before. Hence great interest attached to the International Engineering Congress, which met at San Francisco under Exposition auspices from September 20 to 25, 1915.

It was the greatest meeting of the engineering profession ever held, both in point of numbers and eminence of the men attracted to it.

The Honorary President of the congress was Maj. Gen. George Washington Goethals, and the Honorary Vice-Presidents consisted of Prof. Richard Beck, Sir J. H. Biles, Otto T. Blathy, Commdr. Christian Blom, Prof. André Blondel, Dr. C. E. L. Brown, Dr. Emil A. Budde, Henry Le Chatelier, Prof. Hermann Hullmann, Prof. Luigi Luiggi, Rear Admiral Yoshihiko Mizutani, W. M. Morday, Sir Charles Parsons, Maj. Jean L. de Pulligny, V. E. Timonoff, R. P. J. Tutein-Melthenius, H. H. Vaughan, Sir William Willcocks, and William Henry Hunter.

At the opening session the audience was addressed not only by the man that built the Panama Canal, but by Major de Pulligny, whom the French government sent directly from the trenches, by J. B. Challies of Canada, by Señor J. R. Villalon y Sanchez of Cuba, by Admiral Wei Han of the Chinese Navy, by Señor Don Fernando Cruz of Guatemala, by Admiral M. Kondo of Japan, H. J. E. Wenckebach of The Netherlands, Señor Alejandro Canton of Nicaragua, Señor Don José de

From All the World

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Lasarte of the municipality of Barcelona, Richard Bernstrom of Sweden, and Prof. Arthur Rohn of Switzerland. This meeting was opened by Dr. William F. Durand, and among the speakers were President Moore and Mayor Rolph. The closing session was addressed by Dr. J. A. Brashear of Pittsburgh, President of the American Society of Mechanical Engineers, by J. J. Carty, President of the American Institute of Electrical Engineers, and by other men of eminence in the engineering profession.

All the sessions of the congress were held at the Exposition Auditorium in the Civic Center, and the meetings of the various sections were attended by from 50 to 400 delegates, besides the visitors. About 600 cards of admission were issued to the senior and junior students of the near-by universities. The attendance at special meetings sometimes ran as high as 2,000.

The Engineering Congress was one of the conspicuous successes of the Exposition series, in spite of the disrupting tendencies of the war in Europe. There were 71 delegates from foreign countries: 19 from Europe, 39 from America outside the United States, and 13 from India, China, and Japan. The total registration of delegates came to 815. Fifty-two technical sessions were held, besides the general opening and closing sessions.

It was the first time the engineering bodies of the country had united in an international gathering. In his opening remarks as Honorary President, Major General Goethals said:

"The Canal is another illustration of the functions of the engineer, his uses of the forces and materials of nature for the benefit of man. It is another instance of the fact that engineers are fitted for great executive and administrative functions, and also that they can accomplish and manage a government to the satisfaction of those governed. Believing in straightforward, practical administration, as the engineer does, such a government to be successful most not be political but autocratic, for with politics involved there would enter an unfamiliar factor opposed to the engineer's training and ideals, and he would fail."

The congress resulted from a San Francisco movement that started in 1911 at a meeting of Messrs. A. L. Adams, C. Derleth, Jr., and C. E. Grunsky, representing the American Society of Civil Engineers, and G. W. Dickie, E. C. Jones, and T. W. Ransom, of the American Society of Mechanical Engineers. A meeting was called of delegates from all engineering societies having local San Francisco organizations, and there followed the long campaign we have previously described, of conferences,

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correspondence, invitation, and arrangement, leading up to the fine result.

Organising Labors

The Committee of Management consisted of the President and Secretary and several other representatives of the American Society of Civil Engineers, American Institute of Mining Engineers, American Society of Mechanical Engineers, American Institute of Electrical Engineers, Society of Naval Architects and Marine Engineers. There were many changes due to deaths and retirements, but at the time of the congress this committee consisted of Dr. William F. Durand, Chairman, W. A. Cattell, Secretary, and Charles D. Marx, Charles Warren Hunt, C. Derleth, Jr., Edwin Duryea, Jr., C. E. Grunsky, W. L. Saunders, Bradley Stoughton, Newton Cleaveland, R. E. Cranston, William S. Noyes, Thomas T. Read, J. A. Brashear, Calvin W. Rice, Charles T. Hutchinson, Thomas Morrin, T. W. Ransom, C. R. Weymouth, John J. Carty, F. L. Hutchinson, A. H. Babcock, H. A. Lardner, H. J. Ryan, J. T. Whittlesey, Robert M. Thompson, Daniel H. Cox, George W. Dickie, W. G. Dodd, and H. P. Frear.

It was estimated that the combined work of the different members of the Committee of Management, in arranging this congress, would have equaled the continuous labor of one man for five years.

When it came to papers and discussions, the labor of assigning topics and syllabi was mountainous. It fell to a Papers Committee, which corresponded with some 750 possible authors of whom 240 contributed papers, and 127 contributed written discussion.

This congress, like the meeting of the American Medical Association, was the culmination of a series relating to the same subject. During the last days of the week immediately preceding it, conventions of four of the supporting engineering societies were held: those of the Civil Engineers, Mining Engineers, Mechanical Engineers, and Electrical Engineers. This grouping gave many persons a larger incentive to attend and a greater return for their expenditure of time and money.

Permanent Results

The meetings were not only of the largest technical value to the engineers attending, and highly educational to the public that heard and read about them, but they resulted in a modern engineering library of nearly a dozen volumes covering a wide range of subjects. The editing of these volumes was admirable, and the index volume, with its *précis* of some 240 papers, was a model of compression and of effective salvage of the student's time. Instead of papers dealing with individual constructions or problems or investigations, the management requested papers dealing with assigned topics in a broad and comprehensive

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PHANTASY

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manner, and with especial reference to progress during the preceding decade, present approved practice and suggestions of future development. This was consistent with the contemporaneous character of the Exposition itself. The only exception was the series of papers relating to the Panama Canal, which subject was made a special feature of the congress and treated historically as well as technically. The other fields of engineering covered were Waterways and Irrigation, Municipal Engineering, Railways, Materials of Engineering Construction, Mechanical Engineering, Electrical Engineering, Mining Engineering and Metallurgy, Naval Architecture and Marine Engineering, Military Engineering, and a few miscellaneous topics. They will always be of historic value for they were important problems of applied science and among the main concerns of civil engineers in 1915.

The papers on the Panama Canal discussed its commercial and trade aspects, presented its geology, sanitation, water supply, the labor and purchasing problems, climatology and hydrology, rates of excavation and dredging, construction of locks, dams, and spillways, electrical and mechanical installations, reconstruction of the railroad, shops and terminals, dry docks and wharves, aids to navigation, coaling plants, and floating cranes. Under Waterways and Irrigation there were papers on waterways that form cut-offs on marine routes and others that link natural channels and form inside routes; the waterways of Russia, flood control in China, the improvement of navigable estuaries, river improvement in Japan, irrigation enterprises in the United States, drainage, the duty of water, irrigation in Italy, India, Lybia, Spain, Argentina, and the distribution of water in Australia, with much material illuminating the problem of dams. In the section on Municipal Engineering there were papers on city planning, London traffic problems, water supply, sewage disposal, streets and highways, fire protection, the control of dust, public utilities.

Scope of the Papers

The railway section presented exhaustive descriptions of railways in many countries, discussed railway economics, the locating of new lines, tunnel construction, railway bridges, signals, track and roadbed and terminal and rolling stock and electric motive power, and many other problems of operation and maintenance.

On the Materials of Engineering Construction there were papers on the timber resources of the United States and of Canada, Indian timbers and the forest service in India, timber preservation treatments, clay, concrete, cement, iron, alloy steels in bridges, copper, aluminum, and the testing of materials.

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Under Mechanical Engineering were presented the subjects of improvements in founding and forging, recent and historical, machine shop equipment, automatics with the various feeds, high temperature flames, internal combustion engines, turbines, Diesels, boilers, the art of using compressed air, and motor vehicles, passenger and tractor.

The section on Electrical Engineering and Hydro-electric Power Development presented such topics as the economics of electric power station design, economy and influence of electric motors, heating and welding of metals, electrolysis, locomotives, illumination, the effect of power transmission on economic and social conditions, water turbines, and hydraulic power development and use.

The mining engineers discussed the history of mining, its economic and social influences, coal and metal, valuations, mine safety, European mining finance, mine inspection, and the relation of governments to mining. There was a symposium on iron and steel, in which were discussed steel making in the electric furnace, iron and steel castings, alloying, case hardening, the metallography and hardening of steel. Another symposium was held on the subject of copper, and, besides methods of reducing, dealt with the leaching of copper ores, improvements in the design and construction of modern copper plants, development of electrolytic refining, physical properties of copper, boronized cast copper, copper in Japan. There was another symposium on the cyanide process, and another on the metallurgy of zinc, and on the utilization of fuels in metallurgy. The section on Naval Architecture and Marine Engineering went into calculations for ship forms in the light of modern experiments on resistance, and on propulsion and rolling, and discussed ocean freighters, cargo steamers for coast-tə-coast trade through the Canal, yachts, warships, including submarines and torpedo boats, marine gun armament, naval warfare, steam boilers, turbines, oil fuel, cargo handling, marine terminals, graving docks and dry docks.

Marine Modeling

In addition there were miscellaneous papers bearing on some of the most pressing engineering problems of the day, such as the aeroplane, with theories of sustentation, the expenditure of power in flight, air resistance, hydrodynamical theory as applied to experimental aerodynamics. There were papers on refrigeration, heating, and ventilation, farm power equipment, farm engineering, education in applied science, progress in scientific management, industrial management, motion and time study in industry.

Generally these articles were by the greatest authorities in the subjects treated. Many were present in person, but in some cases the papers were read by secretaries of the various sections. Among the authors were such

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men as Gen. Goethals, Prof. Emory R. Johnson, the authority on the economic aspects and freight rate effects of the Canal, Gen. W. L. Sibert who had the construction of the Gatun Dam and locks and great controlling works under his jurisdiction, Gen. H. F. Hodges who designed the locks, C. E. Grunsky, Tadao Okino, Elwood Mead the irrigation expert, Luigi Luiggi who holds the same relative position on this subject in Italy, Sir Albert Stanley, Rudolph Hering, John R. Freeman, William Barclay Parsons, engineer of the New York subways, David B. Rushmore, Capt. Sven Luebeck of Sweden, Maj. J. D. Galloway, designer of bridges, power plants, and transmission lines, T. A. Rickard the mining authority, Emil Gathmann, Rokusaburo Kondo, G. O. Bradley, George W. Dickie, Frank B. Gilbreth, exponent of modern efficiency and the timing of work operations; and many more equally expert in their fields.

The appointments for the reception and entertainment of the delegates and members and their families were very well conceived. For the foreign delegates arrangements were made for special trains from New York and New Orleans. A week before the congress met, headquarters for registration and the general accommodation of members were established on Post Street. Here tickets could be validated and arrangements made for participation in the various sessions and excursions. There were nine excursions to objects of engineering interest, such as the San Francisco high pressure fire protection system, the Great Western Power Company's hydro-electric plant at Las Plumas, Lake Spaulding, and the Drum power house, the Grass Valley gold mines, and the Coalinga oil fields. The congress officially visited the Exposition grounds on September 22, and while various members sought the exhibits in many other palaces, the majority made a tour of the Palace of Machinery, where the exhibitors had special technical representatives to explain the exhibits to them, and where Chief Danforth acted as host and guide. There was a lawn party at the University of California, a ride up Tamalpais, an automobile excursion through the city, a cruise about the harbor, a reception at the Palace Hotel, and a banquet to the Honorary President and Vice-Presidents of the congress. At the end of the closing session Dr. Brashear said:

"Gentlemen, I move a vote of thanks, grateful and heartfelt thanks, to Chairman Durand of this congress, to Secretary Cattell, his splendid associate, and to all those that were associated with them in the organization and development of this congress; and to the ladies and to the Californians all, for the splendid time they have given us."

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CHAPTER XVII

DEMONSTRATING A SOCIAL PROVIDENCE

AMONG the chapters dealing with early development, this history has sketched the widespread campaign whereby the world's first Congress of Insurance was promoted and organized. This was the first exposition to recognize insurance among the arts of civilization and to assign it standing with transportation, lighting, manufactures, and the other activities through which men match their powers against their needs—the first exposition to put it squarely before the world as a benign social institution instead of a mere gamble with calamity. The event resulted in the organization of the National Insurance Council, a permanent body embracing in its membership the leading insurance men of the country. It is to-day the central clearing house of insurance development for the United States.

An Act of Creation

The "Nine Years After" celebration, in April of the Exposition year, nine years after the San Francisco fire, was carried out through the Commissioner and Executive Committee of the World's Insurance Congress Events, and was followed by an almost continuous series of insurance conventions in San Francisco, which attracted over 100,000 people directly engaged in or dependent upon some department of this business. Hardly a week passed for six months without some of these conventions. All the meetings accentuated the social service side of insurance. Their object was educational, for the public and for participants. It was said that every branch of insurance was represented at this convention.

The "Daily Field," devoted to the Congress and events leading up to it, was published at San Francisco for the whole of this period, by the Insurance Field Company, of Louisville, Ky., and was the only exclusive daily insurance paper in the world published for such a length of time. And throughout the Exposition season there was maintained in the Palace of Mines, as part of the Department of Social Economy, a collective insurance and universal safety exhibit, the headquarters of 75 companies, to give visual demonstration of the great service of casualty prevention in which the insurance business had recently been engaged.

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"THE NET"

FROM THE MURAL BY FRANK BRANGWYN FOR THE COURT OF ABUNDANCE

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The series of conventions and public occasions was crowned by the World's Insurance Congress, which opened its sessions in the Exposition Auditorium on October 4, and continued them, partly in Festival Hall, and other places within the grounds, until October 14. The programs carried out the ambition of the program makers—to expound the entire business of insurance, to show it as an institution, an art, and a science. And it is a great pity that the transactions could not have had a wider publication in more permanent form, for they constituted a textbook of the subject, composed, bit by bit, by specialists and authorities in every branch of this whole, vast coöperative activity; an activity which, as Chester H. Rowell remarked at the opening session, instead of being a gamble is the chief thing that keeps life from being a gamble.

The Whole Institution

About 1,500 people assembled for the first session. It was opened by W. L. Hathaway, Commissioner of the Exposition for the World's Insurance Congress Events, who had given his efforts for about five years to this object. Before him were representatives of insurance in all lines, from every part of the country. On the platform were leading underwriters, business men, city officials, and officers and representatives of the Exposition. Hathaway sketched the development of the Congress, declared the Exposition opened an epoch in insurance history, and presented the General Chairman of the gathering, the Hon. Arthur I. Vorys, of Columbus, Ohio, Chairman of the Committee on Insurance Law of the American Bar Association.

There followed addresses of welcome by Chester H. Rowell, representing Governor Johnson, by Arthur H. Barendt, representing Mayor Rolph, and a response to these by Darwin P. Kingsley, President of the New York Life Insurance Company. Kingsley is one of the men that think their business in world terms, and he said:

"The Government at Washington, whatever else it is, is a great insurance company whose chief function is to guarantee the peace and integrity of the States. It follows precisely the principles which underlie all sound insurance. Why do California and New York exist as commonwealths to-day? Would they probably exist but for the Federal Union? Have they lost any dignity or power or happiness because they have duly subscribed to the great insurance compact of 1789? Would the Nations fare differently if a like compact were made under the Federation of the World? . . .

"The only true business democracies in the world to-day, democracies which do not change their principles at any geographic frontier, and have

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themselves no frontiers, are the great insurance corporations whose membership is world-wide and so soundly and democratically related that no dynastic ambition, no claim of sovereignty, can at all change their beneficent purpose or materially modify their human achievements."

Kingsley was followed by the President of the Exposition, who greeted the delegates, proclaimed the educational purpose of the Exposition, and declared insurance to be the religion of social service. To guarantee the strong, safeguard the weak, protect the dependent, improve the public health, promote longevity, secure better laws, encourage the thrifty, stimulate the quality of attention to family needs present and future, promote economy and proper saving and a sense of responsibility to oneself and others, these were the fundamentals of insurance and the ten commandments of social economy.

Gospel of Thrift

"Before concluding my remarks," said President Moore, "a word of appreciation from the Exposition should go to those splendid men, by the score, more properly by the hundred, who have contributed so much to make this World's Insurance Congress possible. The Local Committee has been indefatigable in its efforts, and I will mention no names in this connection, with but one exception. I would do injustice to the Exposition and to the insurance world if I failed to pay tribute to the breadth of vision, unselfish devotion, loyalty, and enthusiasm to the cause, of Insurance Commissioner W. L. Hathaway. He conceived the idea, and convinced us all of the great possibilities of this work, and with mind, hand, and purse has supported, at times almost carried, the splendid enterprise. His satisfaction of conscience must be his greatest reward, but I know that you will agree with me that these few words inadequately express the sentiments we all hold toward his direction of this great work."

Former Governor Gillett of California followed, reciting the service of insurance after the San Francisco fire.

That afternoon, at ceremonies in the Court of Abundance, the American Life Convention, which had been meeting at Del Monte, received a medal of honor.

The morning session of the second day was devoted to a discussion of the "Constructive Influence of Insurance," under the leadership of Senator Lawrence Y. Sherman of Illinois, who acted as special Chairman. Committees on resolutions and on permanent organization were announced by General Chairman Vorys.

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R. W. Osborn, President of the Board of Fire Underwriters of the Pacific, drew a vivid picture of the conserving work of fire insurance.

"Engineers are constantly studying methods of construction, the chemist is regularly in touch with the great system of underwriting. . . . Rate is so closely attuned to hazard that almost every human activity comes under the guiding influence of underwriting organization. . . . Visit the laboratories and observe the tests and one will at once be amazed at the constantly accruing knowledge which is being gained and given to the public."

Frank L. Gilbert discussed the "Service Performed by Surety Companies," declaring them opposed to gambling; George B. Scott read a paper by Haley Fiske, on the "Service Performed by Life Insurance Companies." About a quarter of the population was believed to be insured, and the total in force would come to $22,342,611,750. There was nothing more certain than death and more uncertain than its date. A recent stage of life insurance was the care and investment of savings for the surviving dependents. One or two companies had begun to offer mortgage loans on homes, with provision for amortization, protected by life insurance. Some companies made special efforts to stimulate their policyholders to personal and public hygiene, another group advised impaired applicants as to their ailments and made suggestions to aid them, one company provided for free periodical medical examinations for its policyholders, another had formed a health association among its members, and the President's Association had opened a forum for the discussion of disease prevention, to which great sanitarians had contributed. Several companies had formed a Life Extension Bureau, which examined insured persons and communicated the results to their family physicians, without cost.

Service to the World

T. L. Miller, President of the West Coast-San Francisco Life Insurance Company, followed on the same topic. He ascribed many improvements of service to the striving, younger companies.

The afternoon program covered "The Service Performed by Casualty and Liability Companies," an address by David Van Schaack of Hartford, Connecticut, Director of the Bureau of Inspection and Accident Prevention of the Ætna Life, and author of a number of textbooks on accident prevention; "The Service Performed by Life Insurance Companies," by Charles W. Scovel, of Pittsburgh, former President of the National Association of Life Underwriters; "The Service Performed by Credit Insurance Companies," by E. M. Treat of St. Louis, President of the American Credit

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Indemnity Company; "The Service Performed by Marine Insurance Companies," by J. B. Levison, then Vice-President, afterward President, of the Fireman's Fund Insurance Company; and "The Force of Insurance in Social Economy," by Alvin E. Pope, Chief of the Exposition's Departments of Education and Social Economy.

So these addresses proceeded, setting forth the social rather than the commercial values of insurance, to the extent of a large volume. The third day was devoted to "Associations, the Insurance Universities," the fourth to "Broadening Social Economy Through Insurance," the fifth to "Present Problems and Future Contingencies." These were the titles and speakers:

"American Life Convention," by Isaac Miller Hamilton, President of the Federal Life Insurance Company.

"National Fraternal Congress of America," by I. I. Boak, Head Consul Pacific Division, Woodmen of the World.

"National Association of Insurance Agents," by C. H. Woodworth, former President.

"National Association of Life Underwriters," by H. H. Ward, former President.

"International Association of Casualty and Surety Underwriters," by E. W. De Leon, President of the Casualty Company of America.

"National Fire Protection Association," by Franklin H. Wentworth, Secretary.

"Association of Life Insurance Presidents," by Charles A. Peabody, President Mutual Life Insurance Company of New York. (Paper read by Willard Done.)

"Taxation for Revenue," by Edward A. Woods, President, National Association of Life Underwriters. (Paper presented by F. E. McMullen.)

"National Supervision," by George W. Miller, President, National Fraternal Congress of America. (Paper presented by I. I. Boak.)

"National Supervision," by Samuel Davis, member of the Boston bar.

"National Supervision," by Charles F. Coffin, Vice-President, State Life Insurance Company.

"Governmental Obstacles to Insurance," by David Starr Jordan, Chancellor, Leland Stanford, Jr., University.

The special Chairman was M. H. de Young, proprietor of the San Francisco "Chronicle" and a Vice-President of the Exposition.

The National Council of the World's Insurance Congress met at the Palace Hotel on Saturday, October 9, adopted resolutions commendatory of the Exposition for its recognition of insurance, and declared that inasmuch as taxation of the business fell on the policyholders, in the long run if

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ONE OF THE ITALIAN GROUP, AT NIGHT

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should be limited to raising the funds necessary for supervision and regulation.

From this point the Council proceeded to the formation of a permanent National Insurance Council, "to organize for national purposes all insurance interests and related activities." And then declaring by resolution that because of the World's Insurance Congress the institution of insurance had "found an abiding place in the minds and consciousness of the people and of those managing the business which it never occupied before," the Council congratulated and thanked Commissioner Hathaway for having, by a long series of disinterested and impartial labors, brought that fine result about.

The second week was devoted to events of an even more general and public character. Monday, October 11, was World's Insurance Congress Peace Day at the Exposition, and in Festival Hall some of the most eminent laborers for world peace appeared; for many peace advocates had seen the possibilities of insurance as an instrument of international harmony and were eager to press their propaganda before this gathering of the insurance influences of the country, as well as before the regular Exposition audiences. Rolla V. Watt of San Francisco, Pacific Coast Manager of the Royal and Queen Insurance Companies, was Chairman of the morning session; and David Starr Jordan, Chancellor of Stanford University, presided in the afternoon.

Broad Programs

The day was distinguished by the reading of a paper on "International Insurance," prepared by one of the most eminent of American philosophers, the late Prof. Josiah Royce of Harvard University. It contained such observations as these:

"Insurance is consistent with any wise form of social constitution. . . . The essence of insurance is that it is a principle at once peace-making in its general tendency and businesslike in its practicable special application.

"A definite plan whereby a group of nations could be profitably and practicably led to form insurance unions, wherein the nations themselves should be parties, has not yet been formed and recognized. I venture to urge that such a plan is not impossible, that if it were formed, and that if it were even in small measure adopted by any group of nations, a beginning could be made in what would in the long run prove to be a very powerful influence both for human prosperity and for international peace.

"The peace-making influence of the modern institutions which embody the insurance principle is largely an indirect influence. People are induced

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to insure, with the hope, and, in successful cases, with the well-founded hope, of rendering less formidable their personal risks. As a result of insuring they gradually find themselves involved in a social network of complicated but beneficent relations, of which individuals are usually very imperfectly aware, but by means of which modern society has been profoundly transformed. . . . Because of these relations to the beneficiary, the people who purchase insurance tend to be linked to the whole social order."

David Starr Jordan's address was an impressive marshaling of the costs of war and the debts of nations, the cause of sure impoverishment of generations to come. It was a masterly financial summary. "The cost of this war would have covered every moral, social, economic, and sanitary reform ever asked for in the civilized world, insofar as money properly expended can compass such results. . . . It would take 70 years of trade to pay Germany's expenses for a year of war." Even in time of peace the net earnings of the German mercantile fleet had been about one-third the cost of the navy supposed to protect it.

"To all the interests of insurance, the lawlessness of war is wholly adverse and destructive. Insurance involves mutual trust, and trust thrives under security of person and property. Insurance demands steadiness of purpose and continuity of law. In war, all laws are silent. War is the brutish, blind denial of law, only admissible when all other honorable alternatives have been withdrawn—the last resort of 'murdered, mangled liberty.'

"In its direct relation, war destroys those who to the underwriter represent the 'best risks,' the men most valuable to themselves and thus most valuable to the community. Those whom war leaves behind, to slip along the lines of least resistance into the city slums, are the people insurance rarely reaches.

"In war all bonds are liable to become 'scraps of paper,' and no fund can be made safe. The insurance investments in Europe have been enormously depleted in worth, a reduction in market value estimated at 50 per cent.

"In every regard the business of insurance is naturally allied with the forces that make for peace. . . . The interests involved should put honest business on its guard. The insurance men could afford to maintain a hundred observers. . . . A few dozen skillful politico-military detectives in the interest of finance might save finance a billion dollars. These

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should watch the standing incentives to war. They should stand guard against the influences that work toward conflict. They should be not only 'firemen to be called in to put out the fire' but agents for 'fireproof building material' in our national edifice, to stand at all times for the security of business, the sanctity of law, order, and peace."

Tuesday, October 12, was Life Conservation Day. There was a parade to the Fountain of Energy, where a medal was presented by the Exposition Commissioner of World's Insurance Events, W. L. Hathaway, to the Life Extension Institute, and accepted by its head, E. E. Rittenhouse, who acted as special Chairman of the Day. A commemorative scroll from the Exposition was presented to Alvin E. Pope, Chief of the Department of Social Economy, by Willard Done, of the Executive Committee of the congress; and a loving cup was presented to Pope by R. W. Osborn, head of the Pacific Board of Underwriters.

Guardians of Life

In presenting the scroll to Pope, Done happily expressed the Exposition's aim in instituting, first among expositions, a Department of Social Economy. "This Department, under the efficient direction of its head, has done splendid service in economic and educational lines; has brought together the elements which contribute to education and social economy, organized these forces, and made them potent means of advancing the two elements which enter into the work of his Department."

Dr. Frederick L. Hoffman, statistician of the Prudential Insurance Company of America, delivered an address on "Insurance and the Conservation of Human Life." Dr. C. C. Pierce, of the United States Public Health Service, spoke on "Human Life as a National Asset"; Alvin E. Pope told "What the Panama-Pacific International Exposition is Doing for the Cause of Life Conservation"; and Dr. Harry M. Sherman, President of the California Association for the Study and Prevention of Tuberculosis, discussed "Life Conservation and Medicine."

Fire Elimination Day was observed with exercises in the Court of the Universe and a fire fighting demonstration on the Marina, on October 13. Willard Done was Chairman of the Day, and Franklin H. Wentworth, Secretary of the National Fire Protection Association, officiated as special Chairman. Commissioner Hathaway presented a medal to the National Fire Protection Association, which was accepted by Wentworth, and another to the San Francisco Fire Patrol, which was accepted by R. W. Osborn. On the Marina a two-story building had been erected, representing a grocery, with a dwelling above. At three o'clock it was set afire. A still alarm brought the Fire Patrol with its

Fire Prevention

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tarpaulins, to cover exposed goods and prevent water damage and any other that it could prevent, and then the Exposition Fire Department got its streams on it and put out the blaze. Afterwards, before the fire station on the Zone, there was an exhibition of life saving by the firemen of that station.

There followed "Safety First: Accident Prevention Day" in the Court of the Universe, with E. O. McCormick, Vice-President of the Southern Pacific Railway, as special Chairman. A medal was bestowed by Willard Done, of the Insurance Congress Executive Committee, upon the Workmen's Compensation Service Bureau, and accepted for the Bureau by Charles H. Holland, General Manager of the Royal Indemnity Company, one of the organizers and most active members of the Bureau. He sketched the services of that extremely valuable machine for observation and service, which recommends safeguards, better lights, and first aid to the injured equipment in all sorts of factories, modifying the workmen's compensation insurance rate to conform to the risk.

"Every safeguard that we recommend, the reduction of premium will pay for within three or four years, after which the employer gets the reduction in rate without any expense. So the employer is giving us a hearty welcome, and is coöperating with us in every possible way. We work on the principle that 'compensation for an accident is only an apology, but the prevention of an accident is a beneficence'."

L. E. Abbott, General Claim Agent of the Oregon Short Line Railroad, an authority on the subject, discussing "The Safety Work of the Railroads," recited a tremendous number of details in which travel had been made safer for the public and the employees as well.

Then Will J. French of San Francisco, Director of the National Safety Council and member of the California Industrial Accident Commission, spoke on "Industrial Safety," describing the work of the Council, which by bulletins, lectures, moving pictures, and an active information bureau, tries ceaselessly to educate personal caution into the great bulk of the people. Figures quoted by the Council showed a worker killed every 15 minutes, day and night, and one injured every 16 seconds; with over 30,000 killed yearly and fully 2,000,000 injured. But industrial safety had become a theme of general discussion in the United States and the reproach that the nation was heedless of the human toll of industry was disappearing. Corporation records of casualties were improving, and reductions in risks were reflected in decreasing insurance rates.

The Workman

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A ROOM IN THE FRENCH PAVILION

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The exercises concluded with an address by Lieut. Duncan Matheson of the San Francisco Police Department, organizer of San Francisco's Traffic Squad, on "Safety from a Street Traffic Standpoint." Great saving of life, especially of school children, was statistically demonstrated.

So the World's Insurance Congress Events and the World's Insurance Congress itself drew to a close, after the most authoritative and impressive demonstration of this benign activity that could have been staged under any circumstances. Through the Exposition, insurance took its place before the world as one of the greatest factors of economics; a social providence of the most expert and scientific character, under which the hazards of being are spread evenly over the community at large and then through expert administration are reduced to the scientific minimum. The congress and the occasions associated with it stand out among the events of the Exposition as one of the very grandest of all its grand educational features.

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CHAPTER XVIII

THE CONGREGATION OF CONGRESSES

AND thus, through its great series of Congresses, Conferences, and Conventions, as well as its material exhibits, the Exposition was, for a season of 9½ months, the intellectual focus of the modern world, the forum to which was brought for exhibition and exchange the critical and constructive ideas that were at work advancing and remaking arts, sciences, religions, systems of industry and of business. The range of subject was limitless. Nothing was too old, nothing too new. The leading college fraternities met here. Fraternal insurance organizations sent their delegates. Enthusiasts brought new political theories, faith healers and surgeons and single taxers proclaimed their latest ideals. The Baronial Order of Runnemede and the Motion Picture Exhibitors' League met not a month apart. The International Congress of Genealogy was closely followed by the meeting of the West Coast Potato Association. There was a World's Bible Congress and an International Buddhist Congress, a meeting of the American Astronomical Society and of the American Druggists' Syndicate.

All Phases

The total transactions of these gatherings would probably exceed the "Britannica," and obviously this work could do no more than "sample" to the reader the subject matter of the series. So it has endeavored to select for treatment some typical conventions and to show a few things that practical men were thinking of in 1915, with reference to some of the more important needs of man—such vital interests as his health, his religion, the teaching of his children, the dissemination of intelligence through the press of the world; science, history, engineering, social progress, and the conservation of life values through the great and growing social bond of insurance. But unless this history was to grow to the dimensions of the "Britannica," it was necessary to stop somewhere among the 928. In the interest of a complete record, and for the help it may render some other exposition, we may, however, read the whole list "by title," so here it is, beginning with one that preceded the Exposition season:

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American Association of Traveling Passenger Agents, October 12 to 14, 1914.
Western Retail Lumbermen's Association, February 17 to 19, 1915.
International Brotherhood Welfare Association, February 17 to 19.
Board of Grand Managers of the Women of Woodcraft, February 17 to 20.
Concatenated Order of Hoo-Hoo (Northern California District), February 18.
State Conference, Daughters of the American Revolution, February 18 and 19.
Pacific Coast Poster Advertising Association, February 19.
Sheriffs' Association of California, February 19 to 22.
California State Conference of Painters, February 20 and 21.
Retail Clerks' International Protective Association, District Number 3, of California, February 21 and 22.
District Grand Lodge, Independent Order B'nai B'rith, February 21 to 23.
Conference on Formation of Statewide Association in Behalf of Agriculture, February 22.
Western Fruit Jobbers' Association of America, February 22.
Pacific Coast Society of Orthodontists, February 22 to 24.
District Attorneys' Association of California, February 22 to 25.
Alameda District, California Federation of Women's Clubs, February 25 to 27.
Paleontological Society of America, Pacific Coast Section, February 27.
Immigrant Work Conference of Northern California, March 1 and 2
Master Painters' and Decorators' Association of California, March 4 to 6.
Dartmouth Alumni Association of the Pacific Coast, March 5.
United Sugar Manufacturers' Association, March 8.
State Association of Journeymen Plumbers and Steamfitters of California, March 11 to 13.
National Park Service, Department of the Interior, March 11 to 13.
Non-Retailing Wholesale Jewelers' and Silversmiths' Association of the Pacific Coast, March 13.
Pacific Turn-Bezirk, March 14 and 15.
State Building Trades Council of California, March 15 to 20.
Grand Lodge, Knights of Honor of California, March 16 and 17.
California State Retail Hardware Association, March 17 to 19.
Student Volunteer Conference (State of California, Northern), March 20 to 21.
California Cattlemen's Protective Association, March 23.
San Joaquin Valley Water Problem Association, March 23.
Inland Waterways Association of California, March 23 to 25.
California State Young Men's Christian Association, March 24 and 25.
American National Live Stock Association, March 24 to 26.
Festivals Association of the Pacific Coast, March 25 to 27.
New England College Men's Association of San Francisco, March 26.
Women's Home Missionary Society of the Methodist Episcopal Church, San Francisco District, March 30.
California Beer Bottlers' State Board of Trade, March 30.
Sutter County Teachers' Institute, April 1 to 6.
World's Social Progress Congress, April 1 to 11.
Counties Committee of the California Development Board, April 2 and 3.
Madera County Teachers' Institute, April 5 to 7.
Merced County Teachers' Institute, April 5 to 7.
San Benito County Teachers' Institute, April 5 to 9.
Sonoma County Teachers' Institute, April 5 to 9.

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Teachers' Institute of the City and County of San Francisco, April 5 to 9.
Contra Costa County Teachers' Institute, April 5 to 9.
Mendocino County Teachers' Institute, April 5 to 9.
Marin County Teachers' Institute, April 5 to 9.
Alameda County Teachers' Institute, April 5 to 9.
Placer County Teachers' Institute, April 5 to 9.
Stanislaus County Teachers' Institute, April 5 to 9.
Santa Clara County Teachers' Institute, April 5 to 9.
Music Supervisors of the Schools of California, April 5 to 9.
California Teachers' Association, Bay Section, April 5 to 10.
Amador County Teachers' Institute, April 5 to 10.
State Federation of School Women's Clubs, April 6 and 7.
Great Camp of California, Knights of the Maccabees of the World, April 6 and 7.
California Association of Applied Arts and Sciences, April 9.
California Fuel Dealers' Protective Association, April 9 and 10.
California Council of Education, April 10.
California Association of Teachers of English, April 10.
Grand Lodge of California, Knights and Ladies of Honor, April 13.
Grand Council of California, Royal Arcanum, April 13 to 15.
Woman's Occidental Board of Foreign Missions of the Presbyterian Church, April 13 to 15.
Grand Court, Order of the Amaranth of California, April 14 to 16.
American Association of Passenger Traffic Officers, April 15 and 16.
Synodical Society of California for Home and Foreign Missions, April 16.
California Society, Sons of the American Revolution, April 19.
Field Club (Special Meeting), April 19.
Grand Council of California, Royal and Select Masters, April 19.
New England Association of California, April 19.
Grand Parlor, Native Sons of the Golden West, April 19 to 23.
Royal Indemnity Company of New York, Pacific Division (Agency Convention), April 19 to 24.
International Bahai Congress, April 19 to 25.
Fire Underwriters' Association of the Pacific, April 20 and 21.
Grand Chapter of Royal Arch Masons of the State of California, April 20 and 21.
The Prætorians, April 20 and 21.
Danish Society of California, April 20 to 23.
Ladies' Auxiliary of the Danish Society Dania of California, April 20 to 24.
California Conference of the Swedish Lutheran Church, April 20 to 25.
Book Committee of the Methodist Episcopal Church, April 20 to 26.
Brotherhood of American Yeomen (Special Meeting), April 21.
Woman's Home and Foreign Missionary Society of the California Conference of the Swedish Lutheran Church, April 21.
North British and Mercantile Insurance Company (Agency Convention), April 21 to 23.
Knights Templar of California, April 22 and 23.
California Swine Breeders' Association, April 23.
Luther League of the California Conference of the Swedish Lutheran Church, April 23.
Society of Mayflower Descendants in the State of California, April 24.
Debating League of California (High School), April 24.

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LOUIS C. MULLGARDT, ARCHITECT

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THE TOWER OF AGES

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Southern California Editorial Association, April 24 to 29.
Manhattan Life Insurance Company (Agency Convention), April 26.
Woman's Auxiliary, Society of California Pioneers, April 27.
Second District, California Congress of Mothers, April 28 and 29.
The Business Men's League of St. Louis (Special Meeting), April 30.
Hebrew Immigrant Aid Society, Pacific Coast Branch, May 2 to 7.
Constitution Grand Lodge, Independent Order B'naith B'rith, May 2 to 8.
National Council of Jewish Women, May 3 to 5.
Grand Court of California, Foresters of America, May 3 to 8.
Grand Circle of California, Companions of the Forest of America, May 4 to 7.
The John Cary Descendants, May 5.
Women's Pacific Coast Good Roads Association, May 6 to 8.
Board of Fire Underwriters of the Pacific, May 7.
Grand Council of California of the United Commercial Travelers of America, May 7 and 8.
Order of Railway Employees, May 7 and 8.
University of California Alumni Reunion, May 7 and 8.
Ancient Mystic Order, Bagmen of Bagdad (Northern California), May 8.
Pacific Coast & Freight Agents' Association, May 10.
National Association of Retail Grocers of the United States, May 10 to 14.
American Federation of Musicians, May 10 to 15.
Veteran Odd Fellows' Association of California, May 11.
Knights of Columbus of California, May 11 and 12.
Western Association of Retail Cigar Dealers, May 11 and 12.
United Spanish War Veterans, Department of California, May 11 to 13.
Daughters of Veterans, Grand Army of the Republic, Department of California and Nevada, May 11 to 14.
Grand Army of the Republic, Department of California and Nevada, May 11 to 15.
Woman's Relief Corps, Grand Army of the Republic, Department of California and Nevada, May 11 to 15.
Ladies of the Grand Army of the Republic, Department of California and Nevada, May 11 to 15.
Sons of Veterans, United States of America, Division of California and Pacific, May 11 to 15.
Grand Lodge, I. O. O. F. of the State of California, May 11 to 16.
Rebekah Assembly, I. O. O. F. of California, May 11 to 16.
World's Congress of Retail Grocers, May 12.
National Lumber Manufacturers' Association, May 12 and 13.
Farmers' Mutual Fire Insurance Companies of California, May 13 and 14.
California Society of Etchers, May 14.
California Association of Cycling Clubs, May 14 and 15.
The Association of Employed Officers of the Young Women's Christian Associations of the United States of America, May 14 to 16.
Stanford Alumni Reunion, May 15.
California Civic League, May 15.
Mills College Alumnæ Reunion, May 15.
Dramatic Order Knights of Khorassan, Business Session, May 17.
Supreme Grand Circle, Companions of the Forest, Ancient Order of Foresters, May 17 to 19.
Grand Lodge, Knights of the Royal Arch of the State of California, May 17 to 19.

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Grand Lodge, Knights of Pythias of California, May 17 to 21.
Grand Temple, Pythian Sisters of California, May 17 to 21.
California Federation of Women's Clubs, May 17 to 21.
The National Association of the Young Women's Christian Associations of the United States of America (Dedication Service), May 18.
California Congress of Mothers, May 18 and 19.
American Ornithologists' Union, May 18 to 20.
National Wholesale Grocers' Association of the United States, May 19 to 21.
National Congress of Mothers and Parent-Teacher Associations (Special Conference), May 20 to 22.
Employed Officers' Conference, Y. M. C. A. of North America, May 20 to 23.
American Iron, Steel, and Heavy Hardware Association, May 24 to 28.
Supreme Tent, Knights of the Maccabees of the World, May 17 to 21.
Prudential Insurance Company of America, $100,000 Club (Agency Convention), May 24 to 28.
Young Men's Christian Association, Special Conference, May 25.
National Association of Supervisors of State Banks, May 25 to 28.
California State Association of Stationary Engineers, May 27 to 29.
California Bankers' Association, May 27 to 29.
Idaho Bankers' Association, May 27 to 29.
Nevada Bankers' Association, May 27 to 29.
Oregon Bankers' Association, May 27 to 29.
National Child Labor Committee, May 28 to 31.
Norwegian Singers of the Pacific Coast, May 28 to June 3.
International Bible Students' Association, May 29 to June 7.
Carpet and Shade Workers' International Association, May 31.
Synod of the Norwegian Evangelical Lutheran Church of America, May 31 to June 6.
Federation of Singers of the Synod of the Norwegian Evangelical Lutheran Church of America, May 31 to June 6.
Young People's Association of the Synod of the Norwegian Evangelical Lutheran Church of America, May 31 to June 6.
Baptist Conference, June 1.
Sons of Norway, District Convention, District No. 2, June 1 to 3.
Royal Neighbors of America (Special Congress and School of Instruction), June 1 to 3.
Cereal Conference (under direction of the University of California and the United States Department of Agriculture), June 1 to 4.
Daughters of Norway, Pacific Coast District, June 1 to 4.
American Library Association, June 3 to 9.
California Library Association, June 3 to 9.
California County Librarians, June 3 to 9.
National Association of State Libraries, June 3 to 9.
Special Libraries' Association, June 3 to 9.
American Association of Law Libraries, June 3 to 9.
League of Library Commissions, June 3 to 9.
General Advisory Commission, Federation of Woman's Boards of Foreign Missions of the United States, June 4 and 5.
Woman's Congress of Missions (under the auspices of the Council of Women for Home Missions and the Federation of Woman's Boards of Foreign Missions and of the Committee of One Hundred of the Federal Council of the Churches of Christ in America), June 6 to 13.

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Architectural League of the Pacific Coast, June 7 to 9.
International Association, Masters of Dancing, June 7 to 12.
National Electric Light Association, June 8 to 11.
Grand Parlor, Native Daughters of the Golden West, June 8 to 12.
American Sweet Pea Society, June 11.
Western Furniture and Carpet Association, June 11.
California Branch, United National Association of Post Office Clerks, June 12.
American Society of Tropical Medicine, June 14 to 16.
Eclectic Medical Society of the State of California, June 14 to 17.
National Eclectic Medical Association, June 14 to 17.
Hotel and Restaurant Employees' International Alliance and Bartenders' International League of America, June 14 to 19.
Baronial Order of Runnemede, June 15.
Pacific Coast Oto-Opthalmological Society, June 15 to 17.
Supreme Lodge, Friends of the Pacific, June 15 to 17.
Baptist State Convention (Colored), June 15 to 21.
California State Homeopathic Medical Society, June 16 to 19.
United Swedish Singers of the Pacific Coast, June 16 to 30.
American Association, Medical Milk Commissions, June 17 and 18.
Pan-American Medical Congress, June 17 to 19.
California State League of Nursing Education, June 18.
American Climatological and Clinical Association, June 18 and 19.
Pacific Coast Machinery Dealers' Association, June 18 and 19.
California State Nurses' Association, June 18 and 19.
American Nurses' Association, June 20 to 27.
National Organization for Public Health Nursing, June 20 to 27.
National League of Nursing Education, June 20 to 27.
American Association of Anæsthetists, June 21.
American College of Surgeons, June 21.
American Therapeutic Society, June 21 and 22.
American Proctologic Society, June 21 and 22.
Supreme Council, Order of the Amaranth of the World, June 21 and 22.
Grand Circle of California, United Ancient Order of Druids, June 21 to 25.
Grand Grove of the United Ancient Order of Druids of California, June 21 to 25.
American Hospital Association, June 21 to 25.
American Medical Association, June 21 to 26.
Medical Society of the State of California (sessions with American Medical Association), June 21 to 26.
American Seed Trade Association, June 22 to 24.
Railway Mail Association, June 22 to 25.
Woman's Auxiliary, Railway Mail Association, June 22 to 25.
Railway Mail Mutual Benefit Association, June 22 to 25.
National Assembly of Civil Service Commissions, June 23.
Alpha Omega Alpha Honorary Fraternity, June 23 and 24.
The Medical Association of the Isthmian Canal Zone, June 24.
Masters and Past-Masters of the Counties of San Joaquin, Stanislaus, Merced, Madera, Amador, Calaveras, Tuolumne, and Mariposa, Free and Accepted Masons of California, June 24.
Pacific Claim Agents' Association, June 24 to 26.
Pacific Association of Railway Surgeons, June 25.
Omega Upsilon Phi Fraternity, June 25 and 26.

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American School Hygiene Association, June 25 and 26.
American Academy of Medicine, June 25 to 28.
Tourist Association of Central California, June 26.
National Wholesale Saddlery Association, June 27 to July 3.
Associated Manufacturers of Saddlery Accessories, June 27 to July 3.
Pacific Coast Women's Press Association, June 28.
International Congress of Mazdaznan Philosophy, June 28 and 29.
State Association of Master Plumbers of California, June 28 and 29.
American Association of Instructors of the Blind, June 28 to 30.
National Saddlery Manufacturers' Association, June 28 to 30.
National Speech Arts Association, June 28 to July 2.
California Speech Arts Association, June 28 to July 2.
Astronomical Society of the Pacific, June 29.
Congress of Authors and Journalists, June 29 to July 2.
Alpha Omicron Pi, June 29 to July 3.
Lindenwood College Reunion, June 29 to July 5.
Board of Control of the Epworth League of the Methodist Episcopal Church, July 1 and 2.
Phi Sigma Fraternity, July 1 to 3.
American Association of Workers for the Blind, July 1 to 3.
Sigma Phi Upsilon Fraternity (Grand Chapter), July 1 to 5.
Arbeiter Saengerbund of the Pacific Coast, July 2 to 5.
The Missionary Education Movement (Pacific Coast Section), July 2 to 11.
National Sales Managers' Association of America, July 3.
California Genealogical Society, July 3.
Travelers' Protective Association (Special Conference), July 3.
International Conference of Women Workers to Promote Permanent Peace, July 4 to 7.
California High School Teachers' Association, July 5 to 9.
Pi Beta Phi Sorority, July 5 to 9.
International Press Congress, July 5 to 10.
National Congress on Recreation, July 5 to 10.
Alpha Chi Omega Sorority (Special Meeting), July 6.
American Newspaper Publishers' Association, July 6.
California Press Association, July 6.
Grand Interfraternity Council of the United States, July 6 and 7.
California State Rural Letter Carriers' Association, July 6 and 7.
California Drug Clerks' Association, July 6 to 8.
American Association of Museums, July 6 to 8.
Association of Retail Sheet Music Dealers of the United States, July 6 to 8.
National Editorial Association (Special Conference following Los Angeles Convention), July 7 to 10.
Western Union Life Insurance Company (Agency Contest), July 7 and 8.
National Leather and Shoe Finders' Association, July 7 to 9.
Gamma Eta Kappa Fraternity, July 7 to 10.
Baptist Young People's Union of America, July 7 to 11.
Pacific Coast Convention of Baptist Young People's Societies, July 7 to 11.
Actors' Equity Association, Special Convention, July 8.
Classical Association of Northern California, July 8.
National Federation of Musical Clubs (Special Meeting), July 8.
International Milk Dealers' Association, July 8 and 9.
National Council of Women Voters, July 8 to 10.

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DOWN THE ESPLANADE

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Federation of Trade Press Associations in the United States, July 9.
American Association of Journalism Teachers, July 10.
Girls' Friendly Society in America, July 10.
Philological Association of the Pacific Coast, July 10.
State University of Iowa Reunion, July 10.
Theta Delta Chi, July 10 to 13.
Congress of the Federal Suffrage Association, July 11 to 13.
International Congress of Viticulture, July 12 and 13.
American Wine Growers' Association, July 12 and 13.
California Viticultural Exhibit Association, July 12 and 13.
California Grape Protective Association, July 12 and 13.
State Board of Viticultural Commissioners, July 12 and 13.
Sigma Kappa, July 12 to 16.
Gossard Sales Convention (First Western and Pacific Coast States Conference), July 12 to 17.
Theatrical Mechanical Association of the United States and Canada, July 12 to 17.
The Music Teachers' Association of California, July 12 to 17.
Delta Kappa Epsilon Fraternity, July 12 to 17.
Yale Week under the Auspices of the Yale Alumni Association of Northern California, July 12 to 17.
Sociedade Portugueza Rainha Santa Izabel, July 12 to 17.
Motion Picture Exhibitors' League of America, July 13 to 16.
Army and Navy Catholic Chaplains' Convention, July 13 to 17.
Great Republic Life Insurance Company (Agency Contest), July 14 and 15.
Phi Lambda Epsilon, July 14 to 16.
Laundrymen's Association of California, July 15 and 16.
United Artisans, July 15 to 17.
The Dickens Fellowship, July 16.
Inter-Mountain Life Insurance Company (Agency Convention), July 16.
Non-Smokers' Protective League of America, July 16 and 17.
Pi Delta Kappa Fraternity, July 16 to 18.
California State Association of Optometrists, July 17.
Christian Endeavor Special Conference, July 17.
National Walther League (Special Meeting), July 18.
Universalist General Convention (Post Convention Conference), July 18.
United Drug Company, Rexall Druggists' Convention, July 18 to 24.
Ninth International Purity Congress, July 18 to 24.
Ancient Arabic Order, Nobles of the Mystic Shrine (Post Convention Special Session), July 19.
California State Association of Electrical Contractors and Dealers, July 19.
Asiatic Institute, July 19 and 20.
Universal Chiropractors' Association, July 19 to 21.
Panama-Pacific Historical Congress, July 19 to 23.
International Association of Rotary Clubs, July 19 to 23.
Alpha Xi Delta Sorority, July 19 to 23.
National Association of the Deaf, July 19 to 24.
Princeton Reunion, July 19 to 24.
American Optical Association, July 19 to 24.
World's Optometry Congress, July 19 to 24.
Supreme Lodge of the Fraternal Brotherhood (Agency Contest), July 19 to 26.
B. P. O. E. Post Convention (Special Session), July 20.

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Epworth League, Special Conference, July 20.
The National Federation of College Women, July 20.
American Historical Association, July 20 to 23.
Managers' Conference, Eastern Outfitting Company (Pacific Coast Branches), July 20 to 25.
The World's Interdenominational Church Pension Congress, July 21 and 22.
Kappa Sigma Fraternity, July 21 to 23.
Northern California Membership League Convention of the Fraternal Brotherhood, July 21 to 23.
National Association of Electrical Contractors of the United States, July 21 to 24.
American Physical Education Association, July 21 to 24.
Bay Cities Physical Education Association, July 21 to 24.
Middle West Physical Education and Hygiene Society, July 21 to 24.
Physical Education Association of the Pacific Coast, July 21 to 24.
Central District of California, Luther League, July 21 to 24.
Swedish-Finnish Temperance Association of America, July 21 to 24.
California and Nevada District of the Evangelical Lutheran Synod of Missouri, Ohio, and other States, July 21 to 27.
New Mexico Historical Society, July 22.
National Association of Comptrollers and Accounting Officers of the United States, July 22 to 24.
National Association of Talking Machine Jobbers, July 22 to 24.
The McDowell Clan, July 23.
The Monticello Seminary Alumnæ Reunion, July 23.
California Association of Commercial Secretaries, July 23 and 24.
Congress on Marriage and Divorce, July 23 to 26.
Kimball Family Association of California, July 24.
The Irvine Society of America, July 24.
National Society of the Sons of the American Revolution (Post Convention Special Session), July 24.
National Plant, Flower and Fruit Guild, July 24.
Loyal Order of Moose of the World, July 24 to 26.
Chinese Nationalist League of America, July 24 to August 3.
North American Gymnastic Union (Convention and Tournament), July 25 to 28.
American Section of the Theosophical Society, July 25 to 28.
American Society of Colonial Families, July 26.
Laundrymen's National Association of America (Post Convention Session), July 26.
Shedd Family Association, July 26.
University of Wisconsin Alumni Reunion, July 26.
Young Family Association, July 26.
National Association of Piano Merchants of America, July 26 to 28.
Independent Order of Foresters, High Court of California, July 26 to 28.
California State Fruit Growers' Convention, July 26 to 30.
California Building Loan League, July 26 to 31.
International Longshoremen's Association, Pacific Coast District, July 26 to 31.
United States League of Building and Loan Associations, July 26 to 31.
International Congress of Building and Loan Societies, July 26 to 31.
The Genealogical Society of Utah, July 27.

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General Convention of Churches of Christ, Special Post Convention Meeting, July 27.
National Society, Americans of Royal Descent, July 27.
Starr Family Association, July 27.
California Federation of Colored Women's Clubs, July 27 to 29.
The International Exposition Eisteddfod 1915, July 27 to 30.
Alpha Delta Pi Sorority, July 27 to 31.
International Lord's Day Congress, July 27 to August 1.
The Jewett Family of America, July 28.
Political Science Association (Pacific Coast Branch), July 28.
International Congress of Genealogy, July 28 to 30.
Christian Church of California North, July 28 to August 1.
Christian Women's Board of Missions, California North, July 29.
Edward Bangs' Descendants, July 29.
National Vocational Art and Industrial Federation, July 29.
Congress of Religious Philosophies, July 29 to 31.
The North American Schweizer Bund, July 29 to August 1.
United Swiss Societies of San Francisco and the Bay Counties, July 29 to August 1.
American Penmanship Teachers' Association, July 30.
Lake Erie College Reunion, July 30.
West Coast Potato Association, July 30.
The Jewish Chautauqua Society, July 31 to August 3.
Delta Delta Delta Sorority, July 31 to August 5.
Agricultural College Alumni Reunion Week (North and South Dakota) August 2 to 7.
World's Bible Congress, August 1 to 3.
American Fern Society, August 2.
International Seamen's Union of America, August 2.
American Association of Economic Entomologists, August 2 and 3.
Independent Order of Red Men, August 2 to 4.
International Conference, Order of the Star in the East, August 2 to 4.
Grand United Order of Odd Fellows (Colored) District Grand Lodge No. 32, August 2 to 5.
National German-American Alliance, August 2 to 5.
Association of American Dairy, Food, and Drug Officials, August 2 to 5.
The Chinese Students' Alliance in the United States (Western Section), August 2 to 5.
Grand United Order of Odd Fellows (Colored), District Grand Household No. 28, August 2 to 6.
American Society of Naturalists, August 2 to 6.
American Society of Zoölogists, August 2 to 6.
U. S. Department of Labor Conference on Employment, August 2 to 6.
Armco Iron Culvert Manufacturers' Association, August 2 to 7.
American Genetic Association, August 2 to 7.
Delta Gamma Sorority, August 2 to 7.
American Association for the Advancement of Science, August 2 to 7.
American Phytopathological Society, August 2 to 7.
Geological Society of America, August 2 to 7.
American Anthropological Association, August 2 to 7.
Archæological Institute of America, August 2 to 7.
International Buddhist Congress, August 2 to 7.

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Entomological Society of America, August 2 to 7.
Biological Society of the Pacific Coast, August 2 to 7.
Seismological Society of America, August 2 to 7.
American Paleontological Society, August 2 to 7.
American Physical Society, August 2 to 7.
American Association for the Study of the Feeble Minded, August 2 to 7.
Woman's Benefit Association of the Maccabees, August 2 to 7.
Fraternal Aid Union, August 3.
American Mathematical Society, August 3 to 5.
American Social Hygiene Association (Special Conference), August 3 to 5.
American Psychological Association, August 3 to 6.
American Astronomical Society, August 3 to 6.
Pi Kappa Alpha Fraternity, August 3 to 6.
Pacific Coast Social Hygiene Federation, August 4.
Sigma Chi Fraternity, August 4 to 6.
Kappa Alpha Pi National Fraternity, August 4 to 8.
National Conference on Race Betterment, August 4 to 8.
American National Association of Masters of Dancing, August 4 to 15.
International Typographical Union, Post Convention Session, August 5.
Pacific Mutual Life Insurance Company (Agency Convention), August 5 and 6.
Great Pacific Saengerbund, August 5 and 6.
Universal Corn Convention under the Auspices of the National Top Notch Farmers' Club, August 5 and 6.
California State Bee Keepers' Association, August 5 to 7.
National Association of Boards of Pharmacy, August 5 to 7.
Phi Alpha Delta Law Fraternity, August 5 to 7.
The Chinese Students' Christian Association of North America (Western Department), August 5 to 7.
Sigma Tau Omega (High School Fraternity), August 5 to 7.
Indian Board of Coöperation, August 5 to 8.
Kappa Kappa Gamma Sorority, Grand Council Meeting, August 5 to 10.
Cornell Alumni Reunion, August 6.
Association of Alumni Secretaries, August 6 and 7.
American Conference of Pharmaceutical Faculties, August 6 and 7.
California Pharmaceutical Association, August 6 and 7.
Sigma Phi Society, August 6 and 7.
Pacific Coast Student Conference of the Young Women's Christian Association, August 6 to 16.
Daughters of Liberty, August 7.
Kansas City Life Insurance Company, August 7.
Official Dairy Instructors' Association, August 7.
Knights of America, August 8.
Society for the Promotion of Agricultural Science, August 9 and 10.
American Society of Agronomy, August 9 and 10.
American Farm Management Association, August 9 and 10.
Central Life Assurance Society of the United States (Agency Convention), August 9 and 10.
Conference of State Inheritance Tax Appraisers, August 9 and 10.
Official Consultation of Officials of the Immigration Service of the Department of Labor, August 9 to 11.
Pacific Fisheries Society, August 9 to 11.

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American Society of Sanitary Engineering, August 9 to 11.
International Congress for Thrift, August 9 to 12.
Union Central Life Insurance Company (Agency Convention), August 9 to 12.
American Statistical Association, August 9 to 13.
Spanish-American War Nurses, August 9 to 13.
Conference of Officials and Employees of the U. S. Indian Service, August 9 to 13.
The Women's Pharmaceutical Association of the Pacific Coast, August 9 to 13.
American Economic Association, August 9 to 14.
American Pharmaceutical Association, August 9 to 14.
American Sociological Society (Summer Meeting), August 9 to 14.
United Master Butchers' Association of America, August 9 to 14.
Southern Week, August 9 to 14.
International Immigration Congress, August 9 to 15.
Congress on Indian Progress under the Auspices of the Northern California Indian Association, August 9 to 15.
Federal Life Insurance Company, August 9 to 16.
American Association for the Advancement of Agricultural Teaching, August 10.
American Osteopathic Association and California Osteopathic Association, Special Joint Conference, August 10.
Baraca and Philathea Union (East Bay Churches), August 10.
Commercial Law League of America (Special Post Convention Session), August 10.
Grand Lodge, Ancient Order United Workmen of California, August 10.
Woodmen of the World Medical Convention, August 10.
National Association of Life Underwriters, August 10 to 12.
American Philatelic Society, August 10 to 12.
Montana Life Insurance Company (Agency Convention), August 10 to 12.
Pacific Coast Gold and Silversmiths' Association, August 10 to 12.
California Reservation, Improved Order of Red Men, August 10 to 13.
Degree of Pocahontas, Improved Order of Red Men, August 10 to 13.
National Tax Association, August 10 to 14.
County Assessors' Association of California, August 10 to 14.
International Conference of Wool Experts, August 10 to 15.
San Francisco County Woman's Christian Temperance Union, August 11.
Sorority Editors' Conference, August 11.
Woodmen of the World, Pacific Jurisdiction (Twenty-fifth Anniversary Meeting), August 11.
Association of American Agricultural Colleges and Experiment Stations, August 11 to 13.
Land Grant College Engineering Association, August 11 to 13.
National Pan-Hellenic Congress, August 11 to 14.
Phi Chi Fraternity (High School), August 11 to 14.
Fraternal Order of Eagles (Special Conference), August 12.
Michigan Agricultural College Reunion, August 12.
The National McKinley Birthplace Memorial Association (California Auxiliary), August 12.
American Insurance Union (Special Conference), August 12 to 14.
California Association of Nurserymen, August 12 to 14.
Pacific Coast Association of Nurserymen, August 12 to 14.

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Phi Delta Chi, August 12 to 14.
National Association Scientific Angling Clubs (Directing the International Fly Casting Tournament), August 12 to 15.
American Association of Farmers' Institute Workers, August 13 and 14.
Northwestern Mutual Life Insurance Company (Agency Convention), August 13 to 15.
Conference of Women Deans in State Universities, August 14.
California Shorthand Reporters' Association, August 14.
Expressmen's Mutual Benefit Association (Special Meeting), August 14.
Pennsylvania State College Alumni Reunion, August 14.
Returned Indian Students' Conference, August 14.
Conference of Women Deans in Universities, Colleges, and Normal Schools, August 14 and 15.
International Hindusthanee Students' Convention, August 14 to 16.
National Grand Lodge of the United States, International Order of Good Templars, August 14 to 17.
League of Teachers' Associations, August 14 to 21.
Grand Council, Young Men's Institute, Pacific Grand Council Jurisdiction, August 15 to 18.
Grand Institute, Young Ladies' Institute, August 15 to 20.
Santa Cruz County Teachers' Institute, August 16
Humboldt County Teachers' Institute, August 16 to 18.
Congress of Reforms, August 16 to 20.
National Shorthand Reporters' Association, August 16 to 20.
International Photo-Engravers' Union of America, August 16 to 21.
Ladies' Society of American Florists, August 16 to 21.
International Students' Reunion, under the Auspices of the Corda Fratres Association of Cosmopolitan Clubs, August 16 to 21.
National Association of Collegiate Alumnæ, August 16 to 23.
Pacific Coast City Conference of the Young Women's Christian Association, August 16 to 25.
National Education Association, August 16 to 28.
International Congress of Education, August 16 to 28.
Departmental Congress on Kindergarten Education, August 17.
Departmental Congress on Rural and Agricultural Education, August 17.
Departmental Congress on School Hygiene, August 17.
Departmental Congress on Educational Investigation, August 18.
Departmental Congress on Music Education, August 18.
Departmental Congress on Physical Education, August 18.
Departmental Congress on Elementary Education, August 20.
Departmental Congress on Science Education, August 20.
Departmental Congress on School Administration, August 20.
Departmental Congress on Relationship Between the School and Coöperative Organizations, August 23.
Departmental Congress on Secondary Education, August 23.
Departmental Congress on Libraries, August 24.
Departmental Congress on the Professional Supervision of Public Schools, August 24.
Departmental Congress on the Preparation of Teachers, August 24 to 27.
Departmental Congress on Administrative Problems as Viewed by Class-Room Teachers, August 26.
Departmental Congress on the Education of Exceptional Children, August 26.

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Departmental Congress on Vocational Education and Practical Arts, August 26.
Departmental Congress on Business Education, August 27.
Departmental Congress on Higher Education, August 27.
Alameda County Teachers' Institute, August 16 to 28.
Monterey County Teachers' Institute, August 16 to 28.
Bankers' Life Company (Agency Convention), August 17.
National Federation of State Teachers' Associations, August 17.
Mutual Life Insurance Company of New York, $100,000 Club (Agency Convention), August 17 and 18.
National Vocational Guidance Association, August 17 and 18.
American Rose Society, August 17 to 19.
International Kindergarten Union, August 17 to 22.
Florists' Telegraph Delivery, August 17 to 20.
Missouri State Life Insurance Company (Agency Convention), August 17 to 20.
National Association of Gardeners, August 17 to 20.
National Congress of Boys' and Girls' Agricultural Clubs and Leaders of the Northern, Central, and Western States, August 17 to 20.
Order of Scottish Clans, August 17 to 20.
Society of American Florists and Ornamental Horticulturists, August 17 to 20.
Sons of St. George, Pacific Coast Jurisdiction, August 17 to 20.
Committee on Agriculture of the Commission on Secondary Education, August 18.
Conference of Text-Book Authors, August 18.
Conference of Art and Manual Training Teachers, August 18 and 19.
American Association of Park Superintendents, August 18 to 20.
American Institute of Banking, August 18 to 20.
Grand Lodge of California, International Order of Good Templars, August 18 to 20.
League of the Cities, August 18 to 20.
National Council of Teachers of English, August 18 and 20.
School Garden Association of America, August 18 and 20.
Phi Delta Kappa, August 18 to 21.
Congress of School Women Under the Auspices of the California Federation of School Women's Clubs, August 19.
Florists' Hall Association of America, August 19.
Spanish Section of the Congress of Romanic Languages, August 19.
Woman's Peace Party of Northern California, August 19.
American Association of Railroad Superintendents, August 19 and 20.
California Presidential Postmasters' Association, August 19 to 21.
Chi Phi Fraternity, August 19 to 21.
Delta Tau Delta Fraternity, August 19 to 21.
Primary Synod of the Province Numbered Eighth of the Protestant Episcopal Church, August 19 to 22.
Mutual Life Insurance Company, Western Managers' Association, August 20.
National League of Women Executives in Education, August 20.
Southland Life Insurance Company (Agency Convention), August 20.
Associated Harvard Clubs, August 20 and 21.
International Reunion of Purdue University Alumni, August 20 to 22.
Bryn Mawr Alumnæ Reunion, August 21.
University of Missouri Alumni Reunion, August 21.

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Mount Holyoke College Reunion, August 21.
Smith College Reunion, August 21.
International White Cross Society (Colored Branch), August 22 to 25.
Eleventh Universal Congress of Esperanto, August 22 to 29.
Esperanto Association of North America, August 22 to 29.
American School Peace League, August 23.
National Association of Teachers' Agencies, August 23.
National Council of Geography Teachers, August 23.
Pacific Coast Conference Unitarian Churches, August 23.
Teachers College Alumni Association Reunion (Columbia University), August 23.
Asiatic Students' Alliance, August 23.
County Sealers of Weights and Measures (California), August 23 to 25.
Single Tax Conference, August 23 to 25.
Colusa County Teachers' Institute, August 23 to 27.
American Press Humorists, August 23 to 28.
California Bar Association, August 23 to 28.
Lawyers' Week, under the Auspices of the California Bar Association, August 23 to 28.
Napa County Teachers' Institute, August 23 to 28.
Sigma Phi Epsilon Fraternity (Special Reunion), August 23 to 28.
Supreme Court, Foresters of America, August 23 to 28.
National Congress of Mothers' and Parent-Teacher Associations' Conference, August 24.
Yuba County Teachers' Institute, August 24.
Butte County Teachers' Institute, August 24 and 25.
Mutual Life Insurance Company of New York, $200,000 Club (Agency Convention), August 24 and 25.
Tehama County Teachers' Institute, August 24 and 25.
American Association of Title Men, August 24 to 26.
California Land and Title Association, August 24 to 26.
General Conference of Unitarian and Other Christian Churches, August 24 to 27.
California School Library Association, August 25.
California Teachers' Association, Northern Section, August 25.
Classical Association of the Pacific Northwest, August 25.
Columbian National Life Insurance Company (Agency Convention), August 25.
Lincoln Highway Association, August 25.
Wellesley College Off-Campus Reunion, August 25.
Western Reserve University Alumni Reunion, August 25.
American Institute of Chemical Engineers, August 25 to 28.
Chi Psi Fraternity, August 25 to 28.
Delta Chi Fraternity, August 25 to 28.
Association of State Superintendents, August 26.
National Social Center Conference, August 26.
Northern California Congregational Conference, August 26.
American Dental Trade Association, August 26 and 27.
Universal Esperanto Association (Special Conference), August 26 and 27.
International Educational Home Economics Congress, August 26 to 28.
Phi Kappa Sigma, August 26 to 28.
Western States Life Insurance Company (Agency Convention), August 26 to 28.

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Gamma Phi Beta Sorority, August 26 to 29.
World's Congress of Young People's Societies, August 27 and September 17.
Alpha Tau Omega, August 27 and 28.
Association of American Universities, August 27 and 28.
Panama-Pacific International Telegraphers' Tournament Association, August 27 and 28.
Pacific Coast Division, Religious Education Association, August 27 to 29.
Religious Education Association, August 27 to 29.
California High Schools Alumni Association, August 28.
California State Veterinary Medical Association, August 28.
Lambda Theta Phi Sorority, August 28.
Montessori Congress, August 28.
Red Cross Congress, August 28.
Emery Family Association, August 29.
Free Religious Association of America, August 29.
National Federation of Religious Liberals, August 29.
Psi Omega Fraternity, August 30.
American Society of Orthodontists, August 30.
Federation of French Alliances of the United States and Canada, August 30 and 31.
General Grand Council of Royal and Select Masters of the United States of America, August 30 and 31.
National Association of Dental Examiners, August 30 and 31.
National Association of State Universities, August 30 and 31.
Acacia Fraternity, August 30 to September 1.
American Numismatic Association, August 30 to September 1.
Association of Veterinary Faculties and Examining Boards of North America, August 30 to September 1.
American Veterinary Medical Association, August 30 to September 2.
Phi Gamma Delta Fraternity, August 30 to September 4.
International New Thought Congress, August 30 to September 5.
Panama-Pacific Dental Congress, August 30 to September 9.
Ladies' Auxiliary of the Brotherhood of Locomotive Engineers, August 31.
Society for Horticultural Science, August 31.
Beta Theta Pi, August 31 to September 3.
Swedish Baptist General Conference, August 31 to September 6.
Delta Sigma Delta Fraternity, Supreme Chapter, September 1.
University of Michigan Alumni Reunion, September 1.
National Dental Association, September 1 and 2.
General Grand Chapter of Royal Arch Masons of the United States of America, September 1 to 3.
National Life Insurance Company of the United States of America, September 1 to 3.
Alpha Sigma Phi, September 1 to 4.
American Fisheries Society, September 1 to 4.
American Pomological Society, September 1 to 4.
California Conference, African Methodist Episcopal Church, September 1 to 5.
Southern California Dental Association, September 2.
California State Dental Association, September 2 and 3.
International Dental Federation, September 2 and 3.
Alpha Delta Phi Fraternity, September 2 to 4.
Psi Upsilon, September 2 to 4.

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Tau Beta Pi, September 2 to 4.
California State Spiritualists' Association, September 2 to 5.
University of Pennsylvania Alumni Reunion, September 3.
Life Recruits' Convention, September 3 and 4.
Northern California State Baptist Young People's Union, September 4 to 6.
Brotherhood of St. Andrew in the United States of America, September 5.
German Catholic Federation of California, September 5 to 7.
American Chemical Society, September 6.
Utah State Dental Society, September 6.
Phi Sigma Kappa, September 6 to 8.
Alpha Chi Sigma, September 6 to 8.
National Federation of Post Office Clerks, September 6 to 10.
Newthot World Congress of Newology, September 6 to 12.
Employed Officers' Club, Y. M. C. A. of Northern California, September 7.
Salt Lake County Dental Society, September 7.
National Association of Fish and Game Commissioners, September 7 to 9.
California Conference on City Planning, September 7 to 11.
League of California Municipalities, September 7 to 11.
Congress under Auspices of California State Spiritualists' Association, September 8.
Concatenated Order of Hoo-Hoo, September 9 to 11.
Zeta Psi Fraternity of North America, September 9 to 11.
Congress under Auspices of National Spiritualists' Association, September 10 to 12.
American Association of State Highway Officials, September 11.
Itinerants Club (California Conference M. E. Church), September 12 and 13.
Needlework Guild of America, September 13.
Nevada Woman's Civic League, September 13.
Ohio Bankers' Association, September 13.
National Society, Daughters of the American Revolution, September 13 to 16.
Pan-American Road Congress, under the Auspices of the American Highway Association and American Road Builders' Association, September 13 to 17.
Pacific Highway Association of North America, September 13 to 17.
Tri-State Good Roads Association, September 13 to 17.
International Irrigation Congress, September 13 to 20.
Congressional Union for Woman Suffrage, September 14 to 16.
Grand Council, Catholic Ladies' Aid Society, September 14 to 18.
Boston University School of Theology Alumni, September 15.
California Annual Conference Methodist Episcopal Church, September 15 to 21.
American Highway Association, September 16.
American Road Builders' Association, September 16.
Brothers of British Birth, September 16.
Garrett Biblical Institute Alumni, September 16.
United Typothetæ and Franklin Clubs of America, September 16.
American Institute of Mining Engineers, September 16 and 17.
American Society of Mechanical Engineers, September 16 and 17.
Institute of Radio Engineers, September 16 and 17.
American Electrochemical Society, September 16 to 18.
Panama-Pacific Convention of the American Institute of Electrical Engineers, September 16 to 18.
American Society of Civil Engineers, September 16 to 19.

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Conference, Army Veterans' Club, September 17.
National Association of Railway Agents, September 17 to 20.
National Drainage Congress, September 17 to 21.
Conference of School Trustees of Marin County, California, September 18.
New York Life Insurance Company (Agency Convention), September 18.
Sigma Alpha Epsilon (Pacific Coast Convention), September 18.
Theta Xi Fraternity, September 18.
Associated Press (Western Division), September 20.
Mining and Metallurgical Society of America, September 20.
New World Life Insurance Company, September 20 and 21.
Pacific Coast Association of Port Authorities, September 20 and 21.
American Mining Congress, September 20 to 22.
National Association of Attorneys General, September 20 to 22.
International Engineering Congress, 1915, September 20 to 25.
Sovereign Grand Lodge, Independent Order of Odd Fellows, September 20 to 25.
Coopers' International Union of North America, September 20 to 25.
Grand Encampment, I.O.O.F. of the State of California, September 20 to 25.
International Association of Bridge and Structural Iron Workers, September 20 to 30.
Rural Credits Conference, September 21.
Mining Stock Brokers' Convention (under the Auspices of the San Francisco Stock Exchange), September 21 and 22.
Telephone Pioneers of America, September 21 to 23.
National Convention of Insurance Commissioners, September 21 to 24.
Massachusetts Institute of Technology Associations West of the Rockies, September 22.
Michigan College of Mines, Alumni Reunion, September 22.
California Metal Producers' Association, September 22 to 24.
Welfare Union, September 23.
American Association of Refrigeration, September 23 and 24.
American Mine Safety Association, September 23 and 24.
American Society of Refrigerating Engineers, September 23 and 24.
Illinois Gas Association, September 27.
San Mateo County School Trustees' Institute, September 27.
Mariposa County Teachers' Institute, September 27 to 29.
San Mateo County Teachers' Institute, September 27 to 29.
National Association of Stationers and Manufacturers, September 27 to 30.
Pacific Coast Fire Chiefs' Association, September 27 to 30.
Safety Conference, September 27 to 30.
American Gas Institute, September 27 to October 1.
National Catalogue Commission (National Association of Stationers and Manufacturers), September 27 to October 1.
International Gas Congress, September 27 to October 1.
Woman's Christian Temperance Union of California, September 27 to October 1.
Pacific Coast Gas Association, September 27 to October 2.
American Association of Public Accountants, September 28.
State Society of Certified Public Accountants, September 28.
Stevens Institute of Technology Alumni Reunion, September 28.
Master Brewers' Association of the United States, September 29 to October 1.
American Life Convention, September 30 to October 2, and October 4.

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I.D.E.S. of the State of California, September 30 to October 4.
California Draft Horse Breeders' Association, October 1.
National Commercial Gas Association, October 1.
Natural Gas Association of America, October 1.
American Association of Importers and Breeders of Belgian Draft Horses, October 2.
German-American National League of California, October 2 and 3.
American Shire Horse Association, October 4.
Association of Life Insurance Counsel, October 4 to 6.
German-American Life Insurance Company (Agency Convention), October 4 to 6.
Santa Barbara County Teachers' Institute, October 4 to 6.
Solano County Teachers' Institute, October 4 to 6.
Volunteer State Life Insurance Company (Agency Contest), October 4 to 6.
American Electric Railway Accountants' Association, October 4 to 8.
American Electric Railway Claims Association, October 4 to 8.
American Electric Railway Transportation and Traffic Association, October 4 to 8.
American Electric Railway Association, October 4 to 8.
American Electric Railway Manufacturers' Association, October 4 to 8.
American Electric Railway Engineering Association, October 4 to 8.
International Brotherhood of Teamsters, Chauffeurs, Stablemen, and Helpers of America, October 4 to 9.
Uniao Portugueza Protectora do Estado da California, October 4 to 9.
World's Insurance Congress, October 4 to 16.
Conference of California Apartment and Hotel Operators, October 5 to 7.
Conference of Pacific Coast Apartment and Hotel Operators, October 5 to 7.
General Baptist Association (Colored), October 5 to 10.
Ætna Life Insurance Company (Agency Convention), October 6 and 7.
Ætna Accident and Liability Company (Agency Convention), October 6 and 7.
The Automobile Insurance Company of Hartford (Agency Convention), October 6 and 7.
California Retail Grocers' and Merchants' Association, October 6 to 8.
Children's Home Society Conference, October 6 to 8.
Western Social Workers, October 6 to 8.
Conselho Supremo da Uniao Portugueza do Estado da California, October 6 to 9.
Pacific Branch, Woman's Foreign Missionary Society of the Methodist Episcopal Church, October 6 to 10.
American Institute of Architects, October 6 to 12.
California State Association of Local Fire Insurance Agents, October 7.
Lick-Wilmerding-Lux Schools Reunion, October 8.
The National Society of the Colonial Dames of America, Resident in the State of California, October 8.
California Elks' State Reunion Association, October 8 and 9.
California Funeral Directors' Association, October 8 to 11.
American Prison Association, October 9 to 14.
American Association of Criminology, October 9 to 14.
Prison Chaplains, October 9 to 14.
Criminal Identification Operators, October 9 to 14.
National Prisoners' Aid Association, October 9 to 14.

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A PASSAGE THROUGH THE ARCH OF THE SETTING SUN

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National Prison Physicians' Association, October 9 to 14.
Prison Wardens' Association, October 9 to 14.
International Peace Congress, October 10 to 13.
Fifth American Peace Congress, October 10 to 13.
American Peace Centenary Committee and Canadian Peace Centenary Association (Special Conference celebrating Century of Peace following signing of Treaty of Ghent), October 10 to 13.
Northern California Peace Society, October 10 to 13.
Church Peace Union, October 10 to 13.
Illinois Commercial Men's Association, October 11.
Iowa State Traveling Men's Association, October 11.
Woman's Home Missionary Society of the Methodist Episcopal Church, October 11 and 12.
Plumas County Teachers' Institute, October 11 to 14.
Grand Lodge, Free and Accepted Masons of California, October 11 to 15.
San Luis Obispo County Teachers' Institute, October 12 to 14.
International Federation of Commercial Travelers' Organizations, October 12 to 15.
National Funeral Directors, Association of the United States, October 12 to 16.
North American Conference of Embalmers' Examining Boards, October 12 to 16.
National Association of Railway Commissioners, October 12 to 16.
State League of Postmasters of the Third and Fourth Class, October 13 to 16.
Methodist Episcopal Church, South, Pacific Conference, October 13 to 18.
Ancient Order of Foresters, October 14.
International Order of the King's Daughters and Sons, California Branch, October 15.
Vassar College Day under the Auspices of the Pacific Branch of the Vassar Students' Aid Society, October 15.
United Parlor, Native Sons of the Golden State (Chinese), October 15 to 21.
California Conference of Boys' and Girls' Agricultural Clubs, October 16.
California State Automobile Association, October 16.
Kerak Temple Nevada Mystic Shriners, October 16.
Santa Clara County Pioneers' Association, October 16.
Society of American Foresters, October 18.
American Builders' Week, October 18 to 23.
Conference of District Engineers of the Water Resources Branch of the Geological Survey, October 18 to 23.
Lehigh University Alumni Reunion, October 19.
Red Polled Cattle Club of America, October 19.
Western Forestry and Conservation Association, October 19 and 20.
California State Grange, Patrons of Husbandry, October 19 to 22.
California Grand Chapter, Order of the Eastern Star, October 19 to 22.
United Daughters of the Confederacy, October 19 to 23.
American Forestry Association, October 20.
Ayrshire Breeders' Association, October 20.
California Jersey Breeders' Association, October 20.
National Temperance Council of America, October 20.
Pacific Logging Congress, October 21.
American Shorthorn Breeders' Association, October 22.
California Association of Electrical Inspectors, October 23.
American Petroleum Society, October 25 and 26.

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State Humane Association of California, October 25 to 27.
El Dorado County Teachers' Institute, October 25 to 30.
P. E. O. Sisterhood, October 26.
Yolo County Teachers' Institute, October 26 to 28.
Independent Telephone Association of America, October 26 to 29.
California Creamery Operators' Association, October 28 to 30.
California Ripe Olive Association, October 29.
California State Realty Federation, October 29 and 30.
Northern California Mission Conference, Church of Jesus Christ, Latter Day Saints, October 31.
Sacramento County Teachers' Institute, November 1 to 5.
International Congress of Women, November 1 to 6.
American Milch Goat Record Association, November 3.
International Allied Printing Trades Council of America, November 3.
Omega Nu (High School Sorority), November 3 to 6.
American Shropshire Registry Association, November 4.
California Swine Breeders' Association, November 4.
The Foote Family Association of America, November 4.
Anti-Cigarette League of America, November 4 and 5.
Metal Trades Department of the American Federation of Labor, November 4 to 6.
Union Label Trades Department of the American Federation of Labor, November 4 to 6.
American Berkshire Congress, November 5.
Chester White Swine Record Association, November 5.
Continental Dorset Club, November 5.
National Swine Growers' Association, November 5.
Salvation Army Congress, November 5.
University of Washington Reunion, November 5.
American Hampshire Swine Record Association, November 6.
American Southdown Breeders' Association, November 6.
International Union of Steam and Operating Engineers, November 6.
Adjutants General Convention, November 8.
Conference of Florence Crittenton Workers, November 8 and 9.
International Longshoremen's Association, November 8 to 13.
American Federation of Labor, November 8 to 20.
American Angora Goat Breeders' Association, November 9.
Christian Church California North, Institute, November 9.
National Association of Professional Baseball Leagues, November 9 to 11.
National Guard Association of the United States, November 9 to 11.
Woman's Baptist Missionary Society, November 9 to 12.
Northern California Baptist Convention, November 10 to 12.
Board of Home Missions and Church Extension of the Methodist Episcopal Church, November 10 to 13.
Patrons of Husbandry, National Grange, November 10 to 19.
National Mohair Growers' Association, November 11.
Northwest Angora Goat Association, November 11.
Farmers' Protective League of California, November 11.
Conference of Goodyear Tire and Rubber Company Representatives, Pacific Coast District, November 11.
Northern California Association of the Monticello Seminary Alumnæ Reunion, November 13.

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Lincoln Grammar School Alumni Association, November 13.
Psychological Society of the New Civilization, November 13.
California Librarian Association, November 13 to 14.
Students' Missionary Conference (under the Auspices of the Student Volunteer Movement of Northern California), November 13 and 14.
California Wool Growers' Association, November 15.
National Society, Children of the American Revolution, November 15.
American Poultry Association, November 15 to 20.
California Prison Commission (50th Anniversary Meeting), November 16 to 18.
California State Conference, Bricklayers', Masons', and Plasterers' International Union of America, November 16 to 18.
American Buckeye Club, November 18.
American Buff Plymouth Rock Club, November 18.
American Buff Plymouth Rock Club, Pacific Coast Division, November 18.
American Independence Union of California, November 18.
League of American Pen Women, November 18.
Buff Minorca Club of America, November 20.
Sierra Club Reunion, November 20.
Society of Mayflower Descendants in the State of California (295th Anniversary of the Signing of the Compact), November 20.
California State Brewers' Association, November 22.
Santa Clara County Teachers' Institute, November 22 to 24.
Building Trades Department of the American Federation of Labor, November 22 to 27.
American Cornish Club, November 24.
Ohio State University Alumni Reunion, November 26.
Philological Association of the Pacific Coast, November 26 and 27.
Conference of Employed Officers Y. W. C. A., Northern California District, November 27 and 28.
Infant Mortality Conference under the Auspices of the California Pediatric Society, Northern Branch, November 29 and 30.
The National Pet Stock Association of America, December 2.
Western States Reclamation Conference, December 2 and 3.
University of Cincinnati Alumni Reunion, December 3.
Children's Pets Exhibitions Congress, December 3.

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CHAPTER XIX

MORAL PROTECTION

IT was largely owing to the initiative and organizing activity of the Woman's Board that the fame of the Exposition was unclouded by any sad stories of girls lost and never found—to that and the expert work of the Travelers' Aid Society which the Woman's Board, with the approval of the Exposition Directorate, called into California to take charge of the work of protection and welfare at this point.

The Exposition management recognized the welfare of the young as one of its gravest responsibilities; for where you have called hundreds of thousands of people from all parts of the country, the adventurous and inexperienced are certain to be attracted, and some are equally certain to be in danger. The President early appointed a Committee on Moral Protection, consisting of Directors Britton, Tobin, and Stanton, to see that the matter was properly cared for, but it was through the Woman's Board that this Committee and the Board of Directors worked, and credit must go to the women for having taken a sure, strong grip on the situation and for having discharged the duty they assumed, with skill and effectiveness throughout. It was peculiarly woman's work, and while the men were busy building, the women attended to it. The city has to-day, as part of its legacy from the Exposition, a permanent organization to keep this work going and make San Francisco one of the safest of places for the inexperienced traveler.

Where Credit Is Due

From 22 to 45 workers were kept in the field throughout the season. They met every incoming train and ferry boat, and offered guidance to all that seemed to need it. Each wore a distinctive badge, which was patented and numbered—a badge with a golden star in a blue-bordered field, bearing the legend in gold letters "Travelers' Aid." They were particularly on the watch for girls traveling alone, coming to the Exposition in search of work, or for any of the innumerable objects connected with it, or to meet someone here. Such persons could always find help at hand. There was even a Housing Department, so that when traffic grew thick the aids at

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"THE HUNTERS"

FROM THE MURAL BY FRANK BRANGWYN FOR THE COURT OF ABUNDANCE

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the ferry and the railway station had lists of good homes and hotels to which the incoming traveler could be referred. During the Exposition season alone 22,824 persons were directed and in many cases personally escorted to safe lodgings in respectable places. When they were not escorted, the lodgings were called up by 'phone to make certain of their arrival. The work of this Housing Department during the Exposition months was the finest of its character ever done anywhere.

Safely Sheltered

What this meant to the reputation of the host city, always more or less at stake in an effort to conduct an exposition successfully, can only be estimated by a consideration of the results that might well have followed the neglect of these precautions.

In addition to aids at the station, three or four of them were continuously on duty at the grounds, where the Directors assigned them an office in the Service Building, and a rest room and general headquarters in the Palace of Education and Social Economy. The Woman's Board supplied an office for this use in the California Building, and the workers rendered assistance to 20,852 persons inside the Exposition grounds. At trains and steamers in San Francisco and Oakland 92,263 persons were cared for.

In all, from January 1, 1915, to the Closing Day of the Exposition the number of travelers assisted was 135,939. The records of the Society were invaluable in the tracing of persons temporarily out of touch with their friends or families; and according to the Chief of Police of San Francisco not one girl dropped from sight in this city during the Exposition year—a really marvelous record.

The Woman's Board selected the Travelers' Aid Society to organize the work of moral protection, because that society had character and standing and commanded the services of experts. Its President was Gilbert Colgate; and its General Secretary was Orin C. Baker, who came to San Francisco, instituted the Travelers' Aid Society of California, and gave his personal attention to the work until the Exposition was over. The Woman's Board felt that the work should have a broader application than merely for the Exposition operating season, and so the branch organized by Baker in the fall of 1914 is a permanent institution of the city, which the city owes to the Exposition as one of its lasting improvements; as much as the Auditorium. Its Honorary President was the late Mrs. Phœbe A. Hearst, its Honorary Vice-Presidents are at this writing the Most Reverend Archbishop E. J. Hanna, Bishop William Ford Nichols, Mrs. Charles B. Alexander, and Mrs. Louis Sloss. The President is Mr. Wallace Alexander. Mr. Milton H. Esberg is Chairman of its Executive Committee, and the directorate includes the names of some of

Strong Endorsement

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the most eminent persons in the community. A striking testimonial to the Society's value lies in the fact that it has been endorsed by the San Francisco branch of the Brotherhood of Railway Conductors. And it assisted more persons in 1916 than it did in 1915.

This was the first time moral protection had been organized on such a scale in San Francisco, and what is more it was the first time organized moral protection had been extended to such a large gathering of people. When Baker arrived there were no experts in just this sort of service, but under his supervision experts were quickly trained. Among the workers almost all languages were spoken. It is not to be supposed that the sensational stories of white slavery actively circulating just before the Exposition year were verified or justified, but enough moral peril ordinarily exists to make preventive measures in an Exposition year thoroughly necessary.

Eleven large organizations coöperated throughout their memberships to spread over the country, and beyond, a knowledge of the Travelers' Aid assistance awaiting visitors to San Francisco should they need it. These organizations were:

The Young Women's Christian Association, the Catholic Society for Befriending Girls, the Young Men's Christian Association, the International Order of Kings Daughters and Sons, the National Women's Christian Temperance Union, the National Congress of Mothers and Parent Teachers' Associations, the National Grange, the Gideons, the General Federation of Women's Clubs, the Girls' Friendly Society of America, and the Associated Charities.

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CHAPTER XX

HELPFULNESS

THE coöperation of the Young Women's Christian Association formed one of the brightest phases of the Exposition. To thousands of weary strangers the Association offered a refuge from all sorts of trouble, and help of the most valuable kind for just about every sort of visitor's difficulty. It saved life. In addition it demonstrated a practical skill in organization work that was an efficiency exhibit in itself.

The Association put up and equipped, at a cost of $43,000, a building containing rest rooms and a cafeteria, and for the latter half of the season it conducted a nursery and playground where mothers could leave their children and be certain they were in good hands. It maintained an information bureau where hundreds of inquiries a day were answered, and where 1,312 people were directed to moderately priced rooms in some 361 places the Association had investigated. It held vesper services every Sunday evening on the verandah of the main building.

The House of Service

On the Zone the Association maintained a club house for girls working in the grounds, where it gave them baths at a charge of three cents for the towels and soap, and served them over 12,000 wholesome meals at an average price of 17 cents. Eleven hundred and fifty girls used this hospitable place regularly throughout the season, running in to bathe their tired feet to use the sewing machine, to play the piano a few minutes, to consult the attendant trained nurse about their ailments. Some were cashiers, some were actors and dancers in the Zone shows—it made no difference what, they were all welcome in the friendly little bungalow with its atmosphere of home. Children of the Zone went there, and sometimes a child temporarily overlooked by its excited parents.

As early in its development as 1912, the Exposition realized that it was going to need help in caring for the thousands of women that would visit it, and help of the sort that comes from an understanding of the women's problems arising in the course of travel and sojourn in a strange country. So the management requested the Young

Starting the Movement

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Women's Christian Association to send out a worker from the New York headquarters to organize for this service. This was in addition to the work of the Woman's Board and the Travelers' Aid Society mentioned above.

A local committee of one hundred women was formed with Mrs. John F. Merrill as Chairman. The other officers were: Mrs. Walter H. Henry and Mrs. Matilda Brown, Vice-Chairmen, Mrs. Lawrence Draper, Treasurer, Miss Emily Carolan, Corresponding Secretary, Miss Alice C. Schussler, Recording Secretary, and Miss Ella Schooley, Executive Secretary.

The especial needs of women at expositions were studied from exposition records. The building was erected and equipped, and a staff of workers was on the grounds ready for action, before Opening Day. On two evenings before the Exposition opened the Association gave banquets for all the girls that were to be employed on the grounds, and thus made its plans known to those that were to benefit by them.

The main building stood just within, and to the west of, the Scott Street entrance, facing the Palace of Liberal Arts across one of the long pools of the South Gardens. In the plan and picture it balanced the Press building, and like it had a broad verandah with a pergola.

The building received about 1,500,000 visitors, all of whom were given some practical and needed service. Through a trained nurse always in attendance at the rest room, it gave first aid in five cases that probably would have terminated fatally except for this prompt help. These were part of a total of 1,416 cases of relief in emergency. The building was quite generally used after all the other places on the grounds were closed, as a meeting place, as a comfort station, and as a refuge and shelter for members of parties whose strength had given out at the strenuous labor of trying to see everything everybody told them they ought to see. Headache, eye strain, foot misery, and other ills succumbed to the quiet atmosphere of the rest room, which extended its welcome to 18,763 persons. Carfare, or shelter for the night, was given to numbers of people that had lost their purses or enthusiastically spent their substance seeing the big show. Caring for lost persons until relatives were found, packing a trunk for some woman that was ill and alone and helpless and then arranging with the Travelers' Aid for her safe conduct home, were all in the day's work.

A Late Refuge

Many girls were attracted to the Exposition in the hope of employment, and, being disappointed, found themselves stranded. Sometimes they needed medical and hospital care, and the Association was able to secure the coöperation of hospitals and clinics for their assistance. Some needed special training to get desired work, many needed room rent and meal

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THE CACTUS GARDEN, CALIFORNIA BUILDING

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tickets. Nostalgia overtook others and they had to have transportation home. These and various other demands drew on the emergency fund to the extent of $1,250, mostly in the form of loans. Nor were the cases cared for only those that hunted up the Association and applied. Personal acquaintance was extended by the secretaries throughout the exhibit palaces and the whole Exposition in order that assistance might be rendered. And that such assistance might not be delayed the Exposition telephone system had orders to give these workers prompt connections from any station without charge.

The assembly hall became a general meeting place for young women at work in the various activities on the grounds. At night the rest room couches were stacked up and tables were placed for classes in salesmanship and stenography, so that some of them should be able to secure employment after the fourth of December.

This question of employment after an exposition closes is a serious matter for hundreds of girls and women, and the Association attacked it with its usual directness of method. Several months before Closing Day it set about finding how many young women would be in need of employment. A personal canvass of the grounds was made, and it was found that of 2,300 girls canvassed, employed in the Exposition or by exhibitors and concessionaires and in foreign and State buildings, 1,100 did not wish further work, and 300 were either going back to their homes in the East or had their employment arranged for, while 350 would be taken care of by the Employment Bureau opened by the Exposition for its own employes. Two hundred and eighty-two registered with the Association as needing work. The business community and the membership of the Chamber of Commerce was canvassed on their behalf and many were placed in good positions. This was in addition to the general cases attended to earlier in the year, amounting to 749 placed in positions during the Exposition season.

Finding New Work

Though the Young Women's Christian Association had never considered that the care of children was part of its work, a nursery and playground was opened on July 21st. A host of mothers were thereby enabled to see the Exposition in comfort and peace of mind, because they could leave their children in the care of trained nurses and kindergartners, to be put to bed for a nap, to frolic in the playroom, or to find their heart's desire in the swings or chutes or sandpiles of the playground. Six thousand, one hundred and eighty-three children, ranging in age from two weeks to 14 years, were taken care of here. A nominal charge of 25 cents a day was made, but in 275 cases children were cared for free of

Care of Children

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charge and their meals given, on occasions when certain societies made it possible for some mothers in the city to see the Exposition that otherwise could not have done so.

The cafeteria, in the main building, was the shadow of a great rock in a weary land, for after you had tried all other places and wanted a change you could go there and get good food at prices little higher than those charged down town. They let men eat there too, and served 864,913 meals during the season. Women employes of the Exposition enjoyed a liberal discount on their lunch checks, and precedence in the cafeteria queue. The business reimbursed the National Board for the money advanced to put up the building and provided the Association with the funds to carry on all the work it undertook. The Exposition waived its usual percentage of the cafeteria receipts.

The benefit of this activity is impossible to overestimate, for it would have to be reckoned in the form of inestimable human values. Nothing in the Exposition gave a finer demonstration of altruistic service. If the extent of it has not been sufficiently indicated, these figures may help:

1,163 applications for positions were received.
2,009 employers were interviewed.
2,400 letters were written to employers.
749 applicants for employment were placed, during the season.
1,468 guests were entertained at special luncheons and dinners.
2,759 guests were entertained at parties for employed girls.
18,718 people attended Sunday vespers.
17,380 people attended moving pictures of Association work.
$43,000 was the cost of the building and equipment.
$25,000 was paid in salaries for Association workers.
$5,000 was expended for the cost and maintenance of the club house on the Zone.
$1,250 was drawn from the emergency fund for special cases.
$500 was set aside for loans after the Exposition.

And all this work expressed in these dry statistics was very vital, very human, warm with the inspiration of human sympathy. Social evenings did not cease with the opening banquets, but included many a jolly evening party, when girls from different concessions came to know one another and established helpful friendships, when those from the same State discovered one another, "when lonely girls found other lonely girls and both forgot their loneliness." Finally, toward the end of the Exposition, the Associa-

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tion gathered them all up for a frolic in the ballroom of the California Building and gave them a chance to say good-bye in a way that would carry the influence of all this morally stimulating companionship throughout the years.

The spirit of altruism and helpfulness that seemed, despite the war, to characterize the civilization of the times shone out again in the work of the Catholic Society for Befriending Girls. The Society was deep in the Travelers' Aid work, its Director General, Archbishop Hanna, being a Vice-President of the California branch. But in addition to that it maintained two rest rooms in the grounds, provided by the Exposition, one in the Palace of Education and one in the Palace of Horticulture. The latter rest room was a large apartment, 30 by 60 feet, on the mezzanine floor between the conservatory and the exhibit section of the Palace. It was attractively furnished, good prints adorned the walls, and here refreshments were served for girls at noon and at tea-time. Tea, coffee, and chocolate were provided free of charge and girls were invited to bring their lunches and eat them at comfortable tables. Matrons were in charge, night and day, and there was a secretary.

Catholic Society

Although primarily for girls at work in the grounds, any girl was made welcome, and those seeking employment were directed to good agencies and suitable lodgings. Mrs. Joseph A. Donohoe was Chairman of the rest-room work, and, through her, direct relations were established with the Woman's Board of the Exposition. It was said that from March to the close of the Exposition nearly 25,000 girls availed themselves of the quarters and privileges offered them by this organization, and assistance was given to and positions were secured for about 1,500.

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CHAPTER XXI

GOVERNMENT OF THE EXPOSITION

IN some respects, the government of the Exposition resembled in miniature that of the Federal Government, subject to the important exception that the Exposition's administrative or executive head was at the same time a member of the legislative chamber. In respect to finance (except for the lack of a budget, which the Exposition had and the Government had not), the Government of the United States offered a model that was unconsciously imitated, but that some future exposition may find it wise to copy, in part, designedly.

As originally conceived the leading committees would have had executive functions, and would have operated largely as independent or semi-independent bodies, responsible to the Board of Directors, of which they were a part. They would have been capable of much independent action, which it would have remained for the Board to ratify or not, and which the Board commonly would have ratified. But although vestiges of that conception lingered, the logic of conditions caused a necessary evolution of practice until the committees became recommending and advisory bodies, outlining policy through legislation and having the Board to enact it, as committees of Congress do, but lacking legislative and executive capacity in themselves.

Through Evolution

It was the original idea that there should be six general committees, equally important in the government of as many branches of the organization, and each under the chairmanship of one of the six Vice-Presidents: Buildings and Grounds, under Crocker; Exhibits, under Hale; Transportation, under Hellman; Concessions and Admissions, under de Young; Finance, under Sloss; and Reception, under Rolph. Rolph became mayor of San Francisco and was succeeded as Chairman of the Reception Committee by William T. Sesnon, who was not a Director, but was later given the position of Sub-Director in recognition of his services. De Young resigned from the chairmanship of the Concessions and Admissions Committee, and after an interregnum of a few months, during which the President occupied the chair, Director Tobin was appointed to succeed him.

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URNS AND COLUMNS

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As work progressed it became evident that this six-headed formation was a bit too symmetrical, because these functions were not at once equally active and vital; and so the working organization was made to take the form of four grand divisions: Those of Works, Exhibits, Exploitation, and Concessions and Admissions. There was a paid executive head as Director of each of these Divisions, who reported to the President of the Exposition as the general executive, and through whom he carried out the policies of the Board of Directors. In some other expositions the duties of the President had been purely administrative and social, while executive functions had been discharged by a Director General, but at San Francisco there was no Director General, the President being the head of both the administrative and executive forces, embracing all the divisions within his responsibility and control. Dr. Frederick J. V. Skiff was Director-in-Chief of Foreign and Domestic Participation, and head of the Executive Staff. Under the authority and direction of the President he had in his general executive charge the Divisions of Exploitation and of Exhibits.

Four Divisions

The Director-in-Chief of Foreign and Domestic Participation, with the Directors of the four main Divisions, constituted the Executive Staff of the President, and met with him on frequent call to coördinate their work and keep their efforts from entanglement. There was a Cabinet, in the rules. But as it never met it could hardly be said to exist outside them.

A distinction was drawn between the terms "administrative" and "executive." The former term was used to designate more specifically the Board of Directors including the President: the policy-determining part of the organization, which received no salaries, but represented the stockholders in the work of creating the Exposition. The latter term referred to the paid executives and their functions; except for the President, who was the executive as well as the administrative head.

The President and Secretary were, *ex-officio*, members of all committees created or authorized by the Board of Directors. All administrative branches and all the executive Divisions and Departments were under the authority of the President.

The Exposition administration was formally and definitely committed to the principles of civil service reform, through the working agreement made with and insisted upon by the President when he consented to take the office. Of patronage, it would almost be possible to write the sort of happy chapter once written of the snakes in Ireland. It was what created and kept going the high efficiency of the force. As for the exceptions that might be pointed out, they were too few and

No Patronage

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obscure to affect results. The principle was carried so far that relatives of officials empowered to select or recommend persons for appointment were by rule made ineligible for employment.

The Exposition, through the President and by means of his appointments, built its organization by calling men to its service instead of hiring applicants in response to influence, and it was ultimately recognized that the best way not to get a job with it was to set "pull" in motion.

It was long since discovered that government resides in the power of the purse—with the cognate power of hire-and-fire; money being that commodity without which work and life in their modern phases cannot successfully be carried on. The power of the purse was in time centered in the Board of Directors, as it is in Congress, because the Board became personally identical with the Executive Finance Council.

The Executive Finance Council was a body made up of the Board of Directors sitting with the Executive Council of the Finance Committee. The Finance Committee consisted of 75 members appointed by the Board of Directors. At least six of them had to be members of the Board. Its Executive Council was to consist of nine members, and at least six of those had to be members of the Board. The Executive Council of the Finance Committee was not exactly the Executive Finance Council, nor was it the Executive Committee, nor was it the Finance Committee itself; although its name had a puzzling family resemblance to the names of all those bodies.

According to the original plans of the framers of the by-laws, three non-members of the Board might have been sitting in the Executive Finance Council, decreeing what should be done and not done with the funds of the Exposition. That was seen to involve some risk of division, and it also contained the possibility of an interference with the Board's control of the corporation's money. So the plan was adopted of having the Executive Council of the Finance Committee consist of nine members of the Committee who should also be members of the Board of Directors, and in September, 1911, these were appointed: Sloss, Chairman; H. T. Scott, Vice-Chairman; and Crocker, Davis, Esberg, Hale, Lindley, Moore, and Fortmann. Death deprived the Exposition of the services of Davis. Lindley resigned about a year later and Tobin took his place. In August, 1914, Esberg resigned, being compelled by his business to go East. Something over a million dollars having been borrowed from the banks that Fall, it was deemed advisable to give them representation on the Council, in order that the financial interests of the city might know the purpose of what was being done, and the Council have the benefit of further expert advice; and so the President appointed, with the approval of the Board of Directors, I. W.

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Hellman, Jr., Herbert Fleishhacker, and Charles K. McIntosh. The first represented the Union Trust Company and was a member of the Board of Directors of the Exposition. The second represented the Anglo and London Paris National Bank; and the third represented the Bank of California National Association.

Sloss served as Chairman of the Executive Council of the Finance Committee until September, 1914, when he was succeeded in that office by Henry T. Scott. President Moore and Secretary Taussig were members *ex-officio*, as they were of all committees. Mrs. D. C. Wilson was Secretary to the Council.

When it sat with the Board of Directors to constitute the Executive Finance Council, which had "general charge and supervision of the finances and financial affairs of the corporation, including the right to control all receipts of the corporation from every source, and to direct and control all expenditures and disbursements of every kind," the Executive Council of the Finance Committee was a minority of the Board itself, and of the Executive Finance Council, which was the same thing as the Board of Directors enjoying a different identity under another name—at least until after the appointment of Fleishhacker and McIntosh, which was well along toward the end of the construction period. Fortunately the members of the Executive Council of the Finance Committee rarely disagreed with themselves as members of the Executive Finance Council, or gave themselves much trouble as a minority of the Board of Directors. But they had to be careful. When the Executive Council of the Finance Committee met it was under the chairmanship of Sloss. When the Executive Finance Council met it was under the same chairmanship. But when the Executive Finance Council adjourned and Sloss, or H. T. Scott, who succeeded him, left the chair and Moore took his place, it was immediately transmogrified into the Board of Directors.

Keeping Its Identity

All appropriations had first to be approved by the Executive Council of the Finance Committee, which recommended them to the Executive Finance Council, namely, the Board of Directors, for enactment. Committees could not draw money until it had been appropriated by the Board of Directors sitting as the Executive Finance Council and approved by the Executive Finance Council sitting as the Board of Directors; and that came to be one operation.

The Board could expend nothing disapproved by itself as the Executive Finance Council, but it might refuse to make an expenditure recommended by itself as the Executive Finance Council. When it agreed with itself,

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as it usually did, it was irresistible, and held the power of the purse just like Congress or the House of Commons.

Committees could recommend appropriations, but could not disburse without appropriations even the funds their own activities might produce. Such funds, all funds with a few exceptions, went into a common treasury and were subject to a central control. After the money for a given object had been set aside it became the function of a paid executive to spend it and secure the object.

Outside the four main Divisions there were a few unattached bureaus and departments engaged in special lines of endeavor, that perhaps cannot be said to have belonged anywhere in particular. From the accounting point of view they were a sad breach in the symmetry of the organization plan—latitudinarian, heretical, lacking any proper sub-infeudation. Their existence may have had complicating effects on the accounts and shocked the formal and puristic ideals of the accountants, but some of them, such as Stewart's Music Department, and Barr's Department of Congresses, Conferences and Conventions, did great work without much committee direction. And there was Hardee's Department of Special Days and Events, operating with the concurrence of the Comptroller and the Director of the Division of Works, directly under the President.

The Executive Committee, of which the President was Chairman, was charged with all powers and functions of the Board when the Board was not in session. Besides the Chairman it consisted, as finally organized, of Directors Taussig, Crocker, McNab, Brandenstein, Tobin, Hellman, Sloss, Hale, de Young, Lindley, and Foster. Director Robert met with it on invitation. During the year preceding the opening the Executive Committee as a smaller and quicker-acting body, gradually began to take the place of the Board, which was what it was there for, and carried on matters until about the beginning of May, 1915.

Drift to Committee

The early months of the Exposition were bad months. There was a long and very exceptional season of rainy and depressing weather, which held back the attendance until it looked to some as though a serious deficit impended. About the middle of March a Committee on Retrenchment was appointed, consisting of Directors Henry T. Scott and Hale, Chairman and Vice-Chairman of the Executive Council of the Finance Committee; and early in April Directors Britton and Lindley were added. This committee accomplished some reduction of operating expenses. By the end of April, however, it had "done its possible," and suspended its work.

By that time events had begun to move rapidly and the Executive Committee proved too large; so to take care of the daily pressure of business

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HENRY BACON, ARCHITECT

ORCHESTRAL NICHE, COURT OF SEASONS

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the Board authorized the creation of a Sub-Committee of the Executive Committee, of which the President was to be Chairman, The members, as appointed by the President with the Board's approval, were Moore, Britton, Hale, Lindley, H. T. Scott, and Taussig.

This relieved the Executive Committee and the President's office of a tremendous amount of detail, and the Sub-Committee became the fore-front of the Exposition government; containing, as it did, the Chairman and Vice-Chairman of the Executive Council of the Finance Committee, and representing, as it did, the Executive Committee and the Board of Directors, or Executive Finance Council. Mrs. Emma Nelson Baker occupied the responsible position of Secretary to this body.

The Sub-Committee exhibited an admirable concentration of executive and financial function for "meeting a series of emergencies," which Dr. Skiff had declared the operation of an exposition to be. It was an even smaller, quicker-acting body than the others had been, was equipped with intimate knowledge of every problem that confronted it, and met these emergencies with astonishing promptness. Applications for appropriations came before it for approval, for it represented the Executive Committee, which represented the Board of Directors; and so, also, it represented the Executive Finance Council. For a long time it assembled every morning at half-past nine and ground the grist from the day preceding. The Comptroller was there to advise it on the amounts of money in various funds and appropriations; Dr. Skiff was usually present to take counsel with on matters of exposition experience; and the General Attorney, Mr. F. S. Brittain, was there to point the proper way through any legal difficulties that might arise in the complicated dealings with exhibitors, participants, concessionaires, and contractors.

Prompt Action

The Executive Sub-Committee was the product of experience and of natural evolutionary processes. Its decisions were swift and could be followed by instant executive action. Perhaps it represents the ideal way to govern an exposition during the operating period—if there is any ideal way.

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CHAPTER XXII

ADMINISTRATION IN 1915

WE have sketched the "Government of the Exposition" and it should now be serviceable to recite some of the principal incidents of administration during the operating season; for it is in the operating season that the most pressing emergencies are to be met and disposed of.

The Exposition opened its gates under a total financial deficit of $1,381,227.43. It had 288 days in which to wipe this out. It must depend for that object on its plant and its organization, and on the ingenuity of its management to attract the people and entertain them, and attract and entertain them over and over again. Governor Johnson, who had had a chance to look around and see what was being done, sent a letter of encouragement reading:

"SACRAMENTO, CALIFORNIA,
March 1, 1915.

"Hon. Charles C. Moore,
President,
Panama-Pacific International Exposition,
San Francisco, California.

"MY DEAR MR. MOORE:

"Last night I returned to my duties here in Sacramento. After a week so pleasantly spent at the Exposition, the first thing I do is to acknowledge that fact and to express to you my appreciation for your continued and uniform courtesy there to Mrs. Johnson and myself.

"I am very sincerely anxious to render what little assistance I can for the success of the Exposition. I really feel that you and your colleagues have so magnificently carried out what you undertook that you are entitled to the enthusiastic loyalty and support of all Californians. There is very little that I can do, but I wish you and the directorate to feel at liberty to

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call upon me, at any time, and if within the bounds of possibilities, I shall always readily respond.

"I have asked our Commission, at least two of whom, I think, will be continuously on the job, punctiliously to observe every invitation extended, and at every dedication, where desired, to have present a representative of the State to extend the formal official greeting of the State. During the past two weeks as you know, personally I did this in practically every instance, and as I watched your never varying enthusiastic good cheer, I thought of the tremendous task ahead of you in this regard. If our Commission, or anybody connected with the State, can lighten your burden in any degree, please command us.

"I am to-day writing various letters to friends in the East, some of whom are connected with the newspaper fraternity, in the endeavor to make them understand the wondrous success of the Exposition. My hope is that in very small degree some of these communications may bear fruit.

"While I am absolutely certain of the tremendous success of the Exposition—a success commensurate with the great accomplishment—nevertheless, I feel that the duty devolves upon all of us who have not been so intimately connected with it as you and your associates, to put forth added effort at this time, and I beg you and the Directors therefore to consider the State as your loyal and enthusiastic ally, awaiting only the appropriate suggestions to do whatever may be desired.

"Sincerely,
"HIRAM W. JOHNSON,
"Governor."

At a stockholders' meeting on March 16, 1915, more than a majority of the stock being represented, a resolution was adopted ratifying, confirming, and approving the acts of the Directors, to date "as fully and completely as if each and every of such acts and proceedings had been specially entered into under the direct instructions of the stockholders." The Board of Directors was reëlected and soon thereafter organized by reëlecting the old officers, and the old Executive Committee consisting of Moore, McNab, Foster, Lindley, Taussig, Brandenstein, de Young, Crocker, Hellman, Tobin, Sloss, and Hale.

The management found itself in control of a huge and complex plant supplied with all sorts of equipment, from the Tower of Jewels to the great organ in Festival Hall, a plant that had cost millions of dollars, and that involved the trusting coöperation of States and foreign governments, to say nothing of the people that had invested their money along the Zone; a plant

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built and assembled for an undertaking that touched business at a thousand points and was like no business in the world, except fundamentally, and there it was like every business. The thing was doomed to die in a few months, and in the meantime it had to be operated for maximum results with an organization of mushroom growth that had no previous experience with it, and nothing to look forward to but its own early dissolution.

Like no Business

A vast amount of detail that there is no reason for reciting here had to be attended to first and last, in order to keep all the complicated elements of the Exposition, human and material, working with reasonable effectiveness. Appropriations for every proper activity had to be made, weak members on the Zone had to be bolstered up, rules about automobiles in the grounds and push chairs in the palaces had to be adjusted from time to time to actual operating needs, and a myriad other small but nettlesome affairs that contained the possibility of irritation and loss had to be settled. There were contracts to be approved, notes to be issued under the deed of trust, little unforseeable items of construction like the band stand on the Zone to be provided for, little damage claims to be adjusted about ladies sitting on tarry benches or snagging their gowns on protruding nails, the annual assessment and the income tax to be watched and held down, concession percentages to be reduced or waived until business improved, some concessions to be revoked, others to be assisted, some amusements to be censored, reformed, taken over and operated. Applications for concessions came in almost to the close of the Exposition. The prices of souvenir coins had to be fixed, a concession to rent baby carriages had to be passed on, requests had to be considered for admitting uniformed participants in parades, for changing the name of a grand stand, for issuing permits for some of the residents in the State buildings. Entertainment had to be provided for official visitors of distinction such as the escort of the Liberty Bell or the orators that were to provide the intellectual nutriment for the more important celebrations.

The volume of such detail would be incomprehensible to any one that had not been a witness to the meetings at which it had to be handled. There was more of it than you could shake the proverbial stick at even if you shook it in the most irate and vigorous fashion all day and half the night. Things could not be dismissed because they seemed trivial. That only appeared to be the greater reason why they must be attended to with the utmost care, for the little things are what cause trouble in human relations, and an exposition is most vitally and intimately human.

Toward the end of March, the Board, through the Executive Committee,

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BERNARD R. MAYBECK, ARCHITECT

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THE TEMPLE OF SCULPTURE

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authorized the plan of admitting school children, during school hours, in classes of twenty or more, accompanied by teachers, at five cents each; the offer to apply to high schools, grammar schools, parochial, and private schools. This was a far more important matter of administrative policy than the mere statement of it appears. The privilege was used in more than a quarter of a million instances, and undoubtedly had a very great advertising effect, in addition to its inestimable educational value.

Rates for Schools

The Retrenchment Committee, consisting of Directors Henry T. Scott, Hale, Britton, and Lindley, had been at work so effectively since the middle of the month that while the payroll for the week ending March 28 aggregated $69,153, that for the week following only came to $56,600: a reduction of $12,500 for the week, or $1,800 a day. Not all of this reduction could be held, but some of it was permanent. The Committee worked through the executives of the organization pressing them to make such reductions in their expenses as they could, and some good results were obtained. By the end of April, the Retrenchment Committee, as such, discontinued its labors.

In the chapter on the "Government of the Exposition" those events have been recited by which the direction of policies passed to the small and active body appointed early in May, called the Executive Sub-Committee, a body that was thoroughly conversant with the Exposition's needs and that met every day. The President was its Chairman, and it took but two members for a quorum. This Committee succeeded to many of the troubles of management, passing on appropriations and contracts for entertainments and regulations for the grounds. It was the clearing house of complaints, the bureau of adjustment of a thousand small troubles. For, an Exposition generates troubles in larger proportion than a permanent business where the routine ills can be anticipated from experience. The disappointed concessionaire, the irritated participant, the stockholder that wanted to run the avenues with his automobile, all got their plaints and pleas up to the Executive Sub-Committee. The six months' grist was astounding.

Among the earliest business of importance was the reorganization of the Department of Special Events, Military Affairs and Athletics, and that of Special Days, an organic change that saved the salaries of ten men and greatly increased operating efficiency. Management of the Special Events was consolidated with that of Special Days, under Theodore Hardee, and necessary executives were gathered together in the Service Building, where they could be in close touch with the Comptroller, the Director of Works, and the Director of Concessions and Admissions.

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The conduct of military affairs was continued by Capt. Edward Carpenter, U. S. A., Commandant of the Exposition Guard, and the direction and control of Athletics became the function of an Athletics Committee, of which William F. Humphrey, President of the Olympic Club, was chairman. The other members of the Committee were Dr. E. G. McConnell and John Elliott, with Herbert Hauser as Secretary.

The creation of the new Department of Special Days and Events, a department we have described elsewhere, had the most fortunate results. Mr. Hardee not only drew upon past exposition experience for methods, for standards of performance, and for adequate conceptions of great occasions, but he was an effective executive, handling his staff with skill, attacking every business promptly and cleaning it up thoroughly.

A Vital Matter

These affairs, the special events, were the corner-stone of the policy of the President in the operation of the Exposition, and their importance cannot be over-stated. They were the life of the institution, they were among the finest and highest manifestations of its activity, they furnished the most stimulating inspirations the community could have had. But they meant far more, for they provided the essentials that kept the Exposition afloat, hauled it off the lee shore of debt, and finally turned threatened losses into profits. Without the extra attendance due to the celebrations of county days early in the season, or that attracted by the State dedications or the foreign dedications, or the special days when celebrated personages spoke, it might not have been possible to keep the gates open for nine and a half months; so large was the irreducible minimum of the overhead expense.

Contraction of the general organization was becoming possible in some quarters in May and June, making for further retrenchment. The New York office was discontinued as an official Exposition department. Two representatives at Washington were also dispensed with. The Works Division laid off some supervisors and janitors, and through this and other economies its payroll shrunk from $4,500 to $3,220 a day. The Division of Exhibits contracted its payroll about $2,600 a month, and the Division of Works succeeded in getting its expenses down a little more. Some cashiers and gatemen were dispensed with. The Traffic Department cut its payroll in two. The Comptroller's Department curtailed.

The last distinct step in the evolution of the office of Comptroller was taken about the middle of May, when W. J. Pearce, Assistant Comptroller, was made Acting Comptroller in order to relieve Comptroller Durkee of the vast amount of routine detail that was devolving on this office. Henceforth the Comptroller, as the representative of the President, devoted himself to

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coöperation with the executive heads in the work of their Divisions and Departments. The weather was settling, the evenings were becoming pleasanter and the night attendance was increasing proportionately. A few of the Zone shows had closed, and among his earliest duties, Durkee coöperated with Director Burt of the Division of Concessions and Admissions, to make over and reorganize some of the survivors in the light of what experience had shown that the local public seemed to want. For this purpose the Exposition found it expedient to appropriate funds. At some points entirely new entertainments were established. At others the show was taken over and operated by the Exposition under more business-like management, through the Comptroller and the Director of Concessions and Admissions. The Comptroller, the Director of Works, and the Director of the Department of Special Days and Events worked with the President to keep the Exposition grounds alive with parades, celebrations, and musical entertainment on a stupendous scale. In the rush of early development and preparation for opening it had not always been possible to organize offices symmetrically and with maximum economy, and it became necessary to examine conditions and rearrange some of them. This duty fell largely to the Executive Sub-Committee, through the Comptroller.

Stimulating the Zone

The operating expense of the Exposition had been gradually contracted from about $18,000 a day, until in the middle of May it stood at about $13,500. Still a determined effort was made to get it down to $12,000. The cost of music for the California Building afternoon dansants was reduced. The Guard force was contracted. Some economies were accomplished in the Department of Special Days and Events. The Bureau of Records of the Exploitation Division was abolished and the press clipping service discontinued. Yet aside from those arms of the organization that were approaching the end of their usefulness anyway, comparatively little was found in the organic structure that could be amputated outright.

Receipts in the latter part of May, from admissions, ticket sales, concessions percentages, and miscellaneous collections for utilities, were running between $15,000 and $18,000, with an occasional jump toward $30,000, depending largely on special conditions or strong attractions. This looked encouraging, although there had been no ground for discouragement, for the undertaking had merely been passing through the experiences common to expositions in their early months, aggravated of course by the protracted rains. But in June it became evident that stories were in circulation over the country to the effect that the Exposition was embarrassed and would close; and it was more than suspected that

Repelling Attacks

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these stories were the children of self-interest and hope, nourished by certain resort-keepers in the East who did not like to see so much travel going to California. The management took decisive steps to have such tales denied and discredited, by arranging through its Washington office for authoritative interviews with leading Government officials about the great value of the Exposition, the improvement of its prospects, and the certainty that it would be carried through to a successful conclusion.

At the same time the Legal Department was making every effort to accomplish clean collection of the money still due on stock subscriptions, and the management adopted a policy that it was felt would assist that end. Suits were begun against delinquent subscribers, and as much publicity as possible was given to the step, in order, as Voltaire said of the execution of Admiral Byng, "to encourage the others." Some were very much encouraged. Two rather large firms that had felt discouraged about paying, paid up as promptly as anyone could wish after suits were filed; and then demanded public statements to the effect that the suits had been a mistake. The management refused to accede to any such demand, on the representations of the Legal Department that instead of the suits being mistakes there had been a great encouragement of payments by delinquents, and if any statements of the sort demanded were made there would be little force in further efforts to clean up the subscriptions.

One highly illustrative form of complaint that the management at least had to consider came from sundry renowned old family remedies, of respectable antiquity and high standing in the domestic medicine cabinet, which were receiving undesirable publicity on placards displayed in the Palace of Education by a hard-hearted and irreverent medical association. The proprietors of these remedies thought that the public required educating along some other lines; any other lines in fact. They stood to lose the fruits of a great deal of industrious and expensive advertising if the public's confidence in the scientific accuracy of that advertising should be shaken. After the fashion of the silversmiths of Ephesus they felt entitled to protection and maintenance, whether they were doing any real good or not. But the Exposition having invited the medical association to make an exhibit, and having promised it freedom of expression as long as it kept within the bounds of decency, hardly felt called upon to censor that exhibit in the interests of the other medicine gentlemen. And the medical association insisted on practicing the sort of education it had set out to practice, so the offending placards stayed up and kept on offending to the end of the chapter.

Overlapping of concessions gave more or less trouble, for in so wide a

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ENTRANCE HALL OF THE ARGENTINE PAVILION

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field of business operations it was impossible to keep continuously in mind all that had been done, and hence there was some entanglement between rug selling privileges that were meant to be exclusive, or books containing photographs of Exposition subjects, or concessions to practice palmistry; yet, compared with the infinite possibilities of trouble there was little such annoyance.

The Annex to the Fine Arts Palace, not contemplated in the original designs for the Exposition, but made necessary by the large number of interesting additional pictures secured, was completed by the beginning of July. Hanging began, and it was necessary to provide the building with additional Guards and service.

From time to time payments had been made to the Union Trust Company to be prorated among the banks that held the Exposition's notes, representing the major part of the deficit with which the Exposition had opened. By the end of August it had become possible to pay off the last dollar of this debt, and it was paid. With what ceremonies this happy outcome was signalized has been recited elsewhere in this work.

The plans for exploitation had been well matured and by the middle of the Exposition season had been in large part executed. The movement had its own momentum, and the results were accruing, so that the business of the Exploitation division was approaching the time when it could dispense with the expert supervision of its head.

As the remainder of the season shortened toward the vanishing point, less and less could be accomplished by publicity, for the Exposition had less and less to sell; and, his work about over, Director George Hough Perry handed in his resignation. It was not accepted at first, for the management felt that something more could be accomplished, but by the middle of September the time was opportune for a retrenchment of expenses in this quarter, and the resignation was accepted. W. S. Chandler, who had been secretary to Perry, remained at his post to carry on the remaining work of the office. Hamilton Wright continued to conduct the Editorial Bureau, and until the last day put out press material to a circle of papers that contracted as the end approached until only those were being served from whose territory the Exposition could be reached in a single day's journey. The newspaper tours contests and the Conventions News Bureau continued in operation. Dutton went to the Live Stock Department to exploit the series of stock shows that would characterize the Autumn months. Local publicity work had gone largely into the hands of the Department of Special Events. But in other branches of this Division there was a pronounced contraction of the staff and a consequent saving in

Diminishing Exploitation

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expense. It was time to reduce its organization, for the great objects of it had been accomplished. As Exploitation was about the first activity of the Exposition, it was the first that could be laid aside.

Late in the year the Exposition itself devoted funds directly to scientific research by building a special structure east of the Machinery Palace to house the Thordarson transformer. Here experiments were carried out in the transmission of electricity at high tension, or high voltage, which means progressive economies of installation, and ultimate economies to the consumers of energy—which is to say, all of us. Humanity goes forward gropingly in these matters, and although expectation excited by sensational tales about the wonders of million-volt transmission may not have been fulfilled, some valuable results were obtained, which have been dealt with in connection with the exhibits in the department of Machinery.

In order to prepare for a rapid pruning of the payroll after Closing Day, notice went out in October to all employes that their services would terminate on December 4. After that their relations with the Exposition were on a day-by-day basis.

One of the preliminaries to closing consisted in augmenting the detective force somewhat, for the last days of an exposition involve an added risk of pilfering, and of even more serious crime. Fortunately nothing worse than petty thievery occurred at San Francisco, probably because of the precautions taken in strengthening the force.

With the approach of Closing Day it became necessary to expand the forces employed in the Department of Customs and Deliveries and the Traffic Department, to facilitate the departure of exhibitors and the clearing out of the palaces for the wreckers. These measures have been described elsewhere. The management ordered that exhibitors and commissions should be notified that the Exposition desired to coöperate in all possible ways in the removal of goods, and had no favorites among packing and forwarding companies, no matter what representation to the contrary might be made. At the same time it was decreed, for the protection of exhibitors, that packers and forwarders desiring to do business in the grounds would have to qualify by depositing with the Comptroller a cash bond of $500 conditioned on their doing their work properly. This would have to be accompanied by a statement of their experience, facilities, and responsibility, and it might be increased if circumstances seemed to warrant. The bond also covered the proper wrecking of booths and disposal of the débris, in case the exhibitor contracted for such service, and if he did it himself he was himself required to make the deposit.

Preparing for the End

No packing or wrecking could begin without a permit from the Depart-

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ment of Customs and Deliveries, and nothing could leave the grounds without such a permit. This put the wrecking and removal operations under direct control of the Exposition through its own officials, for the regulations were enforced by the guards. The outcome proved the wisdom of these orders and the fairness of their administration; the palaces were clear much sooner than it had been possible to clear them at any previous exposition.

Part of the public became greatly interested in the furnishings and contents of the foreign pavilions and State buildings toward the close, scenting "bargains." The commissions were, of course, interested in disposing of their goods and chattels as soon as possible for cash, and one of them requested permission to hold an auction about a week before the end of the season. This would have been disintegration. The management refused to permit it, and adopted the policy of prohibiting any auctions, or even the display of objectionable tags and price marks on any furniture or effects, prior to December 5th. At the same time, permission was extended and regulations were adopted for sales in the post-Exposition period. Commissions of foreign governments and domestic States were permitted to sell furniture, fixtures, and appurtenances in the pavilions and buildings when such articles had been used in connection with official participation, without the payment of any percentages to the Exposition; but this privilege did not include sales of exhibits. Exhibits that had been on display could be moved to the pavilions and sold at auction there but the sale had to be preceded by a contract with the Concessions Department to provide for the payment of a percentage or flat rate for the privilege, and this covered articles that had been on display in the pavilions. Auction sales in the exhibit palaces could not be permitted, but a place was designated on the Zone where auctions of exhibitors might be held. Only one exhibitor took advantage of this accommodation.

Selling Furnishings

Regulations for wrecking the palaces and clearing the grounds were composed by the Division of Works and adopted after conference with the Buildings and Grounds Committee. They were the work of the Chief of Construction, from the same central point of view that had made a symmetrical code of the building regulations.

A few concessionaires wished to keep open after the close, and contracts had to be made with them; mainly restaurants, for business with the post-Exposition visitors and the wrecking crews—and the Fadgl train, which did not long continue. The Young Women's Christian Association intended to keep up its cafeteria lunch, but soon closed.

One of the last acts of the Directorate was to make provision for conveying the Exposition Auditorium to the city.

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At one time, after the Exposition's financial success had been demonstrated, a proposal was made to close it, while that success was assured and before the oncoming of the autumn rains could by any evil chance turn profits into losses. At other times, many other, it was proposed to keep it open a year longer. Such proposals had the effect of revealing, through consideration and study, how fixed the opening and closing dates of a great exposition are in thousands of contractual relations, how double-riveted in the appropriations and expenditures of governments and exhibitors and other participants; not to mention the owners of leased lands on which the courts and palaces stood and who would want their property back or be in a position to demand exorbitant rents for it. There could hardly be a better illustration of the complexity and scope of such an undertaking than the petrifaction of these dates through its manifold obligations and commitments. Every plan and arrangement supports them, and forms a separate obstacle to alteration. To change the closing date of an exposition after that exposition is going might almost be said to be impossible.

Nevertheless, something had to be done about it. That so much beauty as the Exposition embodied should perish was an insupportable thought to the community, and demands began to find voice that some of it be saved; all of it that could be. The question was, how much could be?

In August, the President appointed a "Committee on the Preservation of Such Part of the Exposition as May Seem Desirable and Practicable"; consisting of Directors Hale, Hellman, Britton, Clay, and McNab. O. H. Fernbach was made Secretary. The committee immediately began a study of the complex problems involved—the divers ownerships of various parts of the Exposition site, the policy of the city, and of the Federal Government, the structural character of the various buildings as it affected durability.

Efforts at Preservation

Chief of Construction Markwart was called on for an extensive report on the engineering and financial phases that might control. Suggestions were solicited from the architects as to what particular fragments of buildings and what individual sculptures should be preserved. Conferences were held with architects, with Supervisors, with the City Engineer.

It was soon evident that the economic requirements of an Exposition had been too well served to make it feasible to save any of the main group of the exhibit palaces, or, in fact, much of anything else except the Marina, the Column of Progress, which because of its slender design had been built on a steel frame, perhaps the California Building if a great deal of money were spent on it, and the Fine Arts Palace, which in part was of steel and

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WESTWARD ASPECT, COURT OF THE UNIVERSE

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cement, which stood on Government ground, and the preservation of which by some means or other the public would have demanded if it had been made of pasteboard. With it was, of course, the Lagoon, an essential element of the picture. Inasmuch as an ideal of exposition engineering is to produce buildings that will just last in safety until Closing Day and then pretty nearly fall down of their own weight and save wrecking charges, and inasmuch as the Panama-Pacific International Exposition had good engineers who had come as close as they could to the ideal, there was practically nothing else that could be saved.

In the meantime there sprang up an organization of citizens whose purpose was sufficiently expressed in its title: "The Exposition Preservation League." Its officers were: President, Frank I. Turner; Vice-Presidents, Mrs. D. J. McMaster, Messrs. Philip S. Teller and John O. Gantner; Treasurer, J. J. Fagan; Secretary, Charles H. Cheney; Executive Committee, Fred W. Bradley, Charles A. Murdock, Philip S. Teller, E. A. Walcott, Justin McGrath, R. R. Hiestand, Loring Pickering, and John I. Walter. October 16 was designated Fine Arts Preservation Day, and the management of the Exposition agreed to give the League all the gate receipts beyond the normal calculated for that date. In other words, the League should have for its purposes that part of the receipts which its activities in promoting attendance had contributed. This amounted to $8000 which was ultimately paid over.

Preservation League

The conditions the League would have to meet were set forth with admirable clearness in the report of the Committee for the Preservation, etc., and inasmuch as those conditions are likely to surround other efforts of this nature, and also answer the general plaint "Why must it be destroyed?" we produce the report in part:

"The Directors are sympathetic with any plans which are deemed practical, but . . . it must be patent to any thinking person that temporary buildings should eventually be rebuilt in permanent material, should be put to some useful purpose, and must be maintained in a state of perfection which will redound to the city's credit rather than to have the buildings fall into decay and become a source of embarrassment and humiliation . . . Those people who advocate the saving of any of the palaces, therefore, must of necessity face three serious problems:

"1 They must be prepared to meet the expense of maintenance.

"2 They should find a useful purpose for them.

"3 They must be able to make them permanent within a comparatively short period.

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"The Exposition Directors on the other hand have certain definite obligations:

"1 They are obligated to clear all leased property of buildings within a fixed period of time; and

"2 They are obligated to restore to substantially the condition they were in at the time the Exposition commenced its work, the streets, curbs, and sidewalks.

"The Column of Progress rests on the intersection of two dedicated city streets, and should remain until such time as the city government either arranges for it to become permanent or orders its removal.

"The Yacht Harbor may remain as long as the Exposition owns the property.

"There have been many expressions favoring the saving of the California building, and . . . yet there has been only one practical suggestion offered for its use, and that is to make of it a State Normal School. The proper authorities to solve this problem are those officials entrusted by the people of the State with the management of Normal School Affairs. . . . Your Preservation committee recommends that if the Normal School trustees desire this building for their purposes the Directors of the Exposition stay the hands of the wreckers as long as practical in view of the leases which expire on September 1, 1916, which can only be renewed for six months thereafter and at a cost of one thousand dollars per month.

"The Fine Arts Palace rests upon government property, under a lease which expires December 31, 1916, but the Hon. Julius Kahn has promised to introduce a bill in the next Congress providing for a revocable permit which will probably extend the right to the use of this land indefinitely for the purposes desired.

"There has been a growing demand that the Fine Arts Palace be kept open after December 4, and . . . your committee is prompted to recommend that it be allowed to remain as it is for the present, giving time for the proposed Fine Arts exhibit from January 1 to May 1, 1916.

"The preservation of the Marina is of paramount importance for posterity as the greatest memorial of the Exposition, making as it does one of the most magnificent scenic marine boulevards in the world; and the necessary property should be immediately acquired by the city, State, or nation, or by public donations or subscriptions.

"In conclusion, your committee deems it advisable to call the attention of the public to the fact that the Panama-Pacific International Exposition was organized for the purpose of carrying forward an exposition, and that there must be a termination to its activities. As an organization it is

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obligated to close up its affairs as soon as possible. Any palace or activity intended for perpetuation must therefore be taken over by some other organization, and we recommend that the Executive Committee publicly announce this statement of fact and encourage any organization which has for its purpose any legitimate practical preservation plans."

The report was signed by Hale, Taussig, Clay, McNab, and Hellman. It defined the preservation policy of the Exposition, in general and in detail.

One item of this Committee's activity is well worth noting for the benefit of any student of organization and organized work. It was necessary to invite to a special meeting the heads of some of San Francisco's extremely energetic citizens' societies "for the purpose of conferring with the Committee and familiarizing themselves with the plan of preservation, as thus far discussed, in order that they may not embarrass the Committee in its work by advocating other plans." That tells volumes. Spontaneous energy is a grand thing in a community, but it has to be ordered in some way, to keep it from tripping over its own feet. This is organization, however loose it may seem, and it explains in part why so much red tape is necessary in the world.

Controlling Zeal

A petition to the Directors to keep the Fine Arts Palace open after Closing Day had been drafted and exposed in the rotunda of the Palace for signatures. Almost every school-teacher in San Francisco signed it, and so many of the general public that when it finally reached the Board it was a sheaf of large sheets nearly three inches thick. In accordance with the Committee's recommendation, it was decided not to wreck the building, but to keep it open until May 1, 1916, under the management of the Chief of Fine Arts. Trask undertook to hold what paintings he could and the management sent him and Francis McComas East to replace those that would have to be returned to owners or delivered to purchasers, and they were successful in obtaining a most creditable collection, mainly from artists. Some of the mural paintings were hung in the Palace as the wreckers stripped them from the walls of the courts—Brangwyn's, Mathews', and Hassam's; and the casts from the Greek Pavilion were housed there. Adult coupon tickets for the post-Exposition season, good at the Lyon Street gate for admission to the Fine Arts Palace, were put on sale at $2.50 for 20 coupons. The Palace did not close on May 1, 1916, but passed under the administrative control of the San Francisco Art Association, of which John I. Walter is President, with J. Nilsen Laurvik of Trask's old staff as Director. At this writing it is still open and is being

The Art Museum

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visited daily by hundreds of people. How the other preservation plans worked out is a tale for a later telling.

At the end of the Exposition year there were 166 suits pending to which the Exposition was a party. Four were being handled by insurers of the Exposition on personal injury claims, and of the other 162 there were 124 that were brought by the Exposition itself against subscribers to the stock. The remaining 38 had been brought against the Exposition chiefly on asserted mechanics' liens, caused by the failure of concessionaires to pay their construction bills. The Legal Department had dealt with nearly 400 executions and attachments against employees or participants in cases where the Exposition was not a direct party, and had prepared, or examined and advised upon, over 1500 contracts, both in their inception and execution, besides causing several copyrights to be procured.

Later, in the chapter dealing with "Dissolution and Preservation," will be narrated the main steps of the effort to give San Francisco a wonderful "Marina."

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CHAPTER XXIII

A FEW CRITICISMS

IN order that valuable experience might not be lost, and that still another contribution might be made to the science of expositions, President Moore called on various department heads and division chiefs shortly after Closing Day, to set forth any criticisms of management and practice they might have in mind as the result of their working contact with exhibitors and participants at one end and the Exposition government at the other. Very few had any desire to review the griefs of days that were gone, and that had, on the whole, gone well. But from the responses that were made we take a few remarks that appear pertinent and that may give some guidance to the management of the next exposition held in this country; withholding names, and above all withholding endorsement of the views expressed. We state those views merely for what they are worth. They are individual opinion and their validity may have been somewhat affected by too close contact with the work. In some cases of complaint the condition complained of might have had great advantages over any that would have obtained in place of it—that is conjecture. But at least here are some views of men that were already experts in their fields when the Exposition opened, or that became experts through their long service with it.

Individual Opinion

One exhibit department chief states: "The troubles arising out of the unreadiness of some of the exhibits as Opening Day approached were more the fault of contractors than of exhibitors, for several of the former took too many contracts for the erecting of booths. The same trouble from the same cause repeated itself when it came to the demolition of booths and clearance of space after Closing Day. This held back the work of cleaning up the department."

Elevated platforms in exhibit palaces proved a menace in many ways. People tripped and fell over them. The experience in the Government booths proved that in many cases it was not necessary to have any platforms at all. (The Palace of Education had none.)

A drawback at first was the lack of plain directions to the different parts

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of an exhibit palace. People entering the building were always at a loss to locate the various exhibits. This was ultimately remedied by arranging a special directory, with the plan of the building, at each of the principle entrances.

There was great objection to the time of publishing the awards. Exhibitors complained that this news should either have been given out earlier or else held back until the close of the Exposition. There were complaints from exhibitors about the method of handling the passes and permits.

There was a failure on the part of many foreign exhibitors to provide their booths with efficient help for explaining and demonstrating the exhibits. In many cases it was too difficult for the public to receive proper information of this sort, and there was a loss of educational value at this point.

A large percentage of the attendants in charge of exhibits were incapable of describing them intelligently, being without detailed or technical knowledge. Nor did exhibitors take advantage of the advertising possibilities of the situation as they might have done. Too large a proportion of the public passed through exhibit palaces from one main entrance to another, without visiting the side aisles. Carpeting these aisles helped the situation to some extent, special decorations more, and special entertainment features in particular booths still more.

Need of Explanation

In the opinion of one of the most expert and practical of all the exhibit chiefs at San Francisco, the devastating cancellations that followed the outbreak of war, and in fact most of the cancellations that plague a department toward Opening Day, might have been prevented had the exhibitor been compelled in advance to put up a cash bond of perhaps $2 a square foot of his space, conditioned on his taking that space and using it no matter what might happen. Few manufacturers would have any objection to so reasonable a practice.

There was considerable unfavorable criticism of the policy of having both the janitor service and the guard service, as far as it related to the protection and control of exhibit palaces, under the jurisdiction of the Division of Works. Exhibit department chiefs understood the requirements of exhibitors and were in a position where they had their confidence and could appreciate their needs and troubles. The central administration of the janitor service, the garbage removal service, and the control through the guards of the opening and closing of the palaces, had important values in the general management of the Exposition, and secured a uniformity of practice that would have been impossible without it, but it was not highly appreciated by some of the exhibit chiefs, who considered that they should have had the whole control of their palaces. "All regulations applying to

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exhibitors and all routine matters dealing with the exhibitor can far more consistently be handled by or through the Chief of his department than by anyone else."

One of the most experienced of the exhibit chiefs wrote: "Since the St. Louis Exposition the method of selling and advertising by manufacturers had so completely changed that I felt the absolute necessity of personal work in the Eastern States in the interest of the Exposition in order to secure the character of exhibits we desired. To my mind the same course should have been followed in Europe."

"It is not practical," says another, "to make a classification which will draw the line strictly between exhibits which may belong in one department or another. Nor is it practical to install in one building all exhibits classified under the exhibit department which occupies that building. The final test of a classification is that arrangement of exhibits which will bring before each Jury of Awards the exhibits which it is competent to pass upon. . . . It would have saved a great deal of confusion and would have rendered the system of awards less difficult and more efficient if each exhibitor had been required to submit for review a list of the articles on which he desired an award. All these lists could then be classified and arranged according to similarity of exhibits, and referred to the juries most competent to pass upon them. This information should be in hand before juries are assembled."

For the Juries

On the whole there were very few complaints, even when complaints were invited—the best evidence that there was little to complain of, which is almost miraculous in such a large and intricate business. As one department chief with wide eastern connections said: "Everyone I meet in the East is surprised at what was accomplished, and especially commends the administration for its good work. The generally accepted verdict in the East is that the Exposition was a pronounced success. This is certainly compensation for a lot of hard labor."

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CHAPTER XXIV

ADMISSIONS AND CONCESSIONS—REVENUE

EIGHTEEN or twenty times the population of the host city, the reader may recall, was what an optimist might have expected as the total of paid admissions. That coefficient had been established by the researches of Director Esberg in preparation for the first budget. Based on the experiences of the expositions at Chicago, Atlanta, Nashville, Omaha, St. Louis, Portland, Jamestown, and Seattle it seemed to represent about the way American expositions were attended. The average daily paid attendance had been equal to about ten per cent of the populations of these cities; but it took an optimist to hope for that proportion at San Francisco, because San Francisco has no "surrounding territory." Instead of being anywhere near the population center of the country or surrounded by a densely peopled area, it was out on the rim of the continent, and could not expect much attendance from the ocean. It was also thought that the extended period, of 288 days, would operate to decrease the daily average instead of increasing the total. Ten million was a conservative expectation; twelve million was optimistic.

At a Disadvantage

The attendance exceeded all expectations and upset all calculations, especially in the early days of the season. It justified San Francisco's ambition to hold the Exposition, justified the decision of Congress in assigning it to San Francisco, justified the decision of the President and Directors to open on time, war or no war, justified the decision to operate for 288 days. The total was 18,876,438, of which the paid came to 13,127,103. Assuming that the city contained half a million inhabitants in the Exposition year, and from a consideration of all authorities that is the most probable figure, it was 26 ¼ times the population instead of 18 or 20 times. And this was in spite of the fact that the daily average of paid, 45,580, did fall somewhat below the ten per cent of population. The long season probably operated to increase the total attendance while it diminished the daily average—such at least is the lesson of the statistics.

The dates for opening and closing the Exposition were set by the Board of Directors at a meeting held on April 2, 1912: almost three years before

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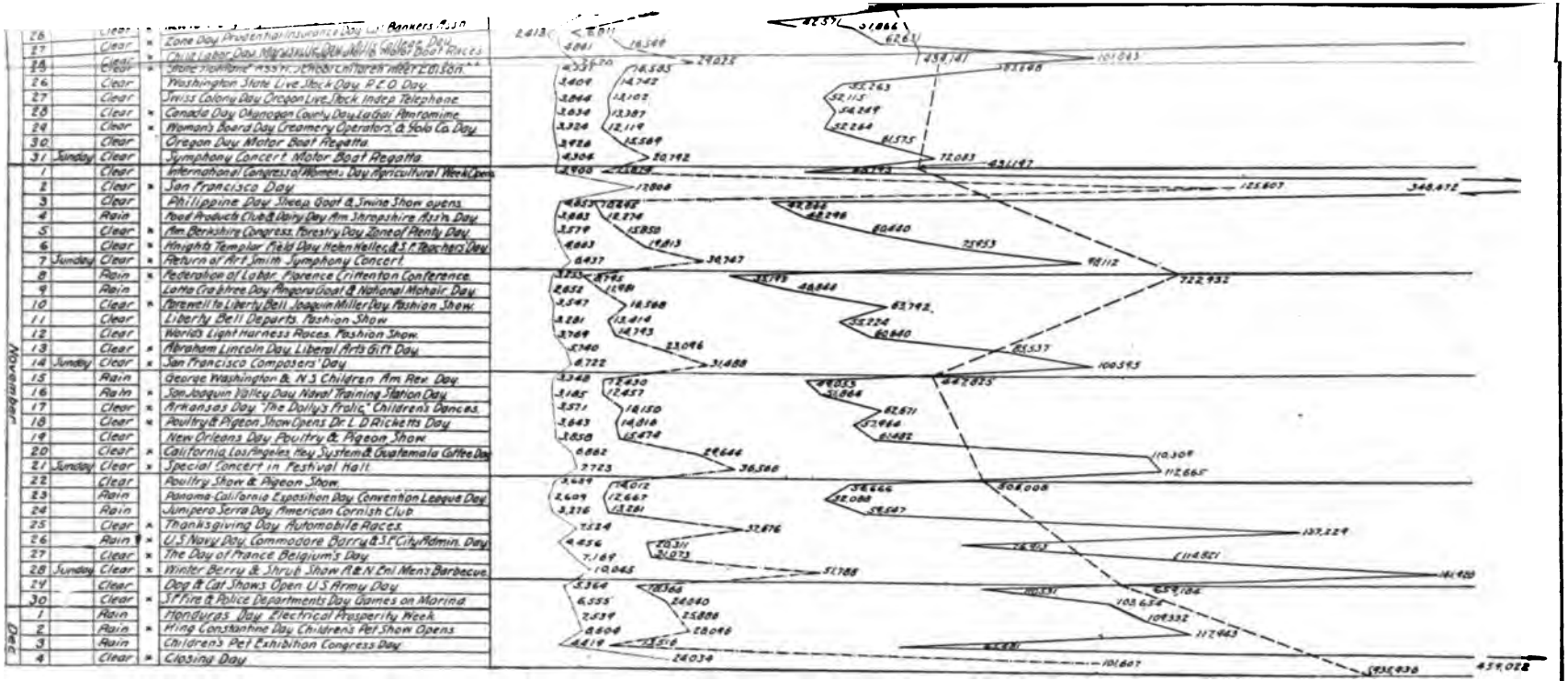
November
Dec
Zone Day Prudential Insurance Day Bankers Day
Chief Labor Day Migratory Waterfowl Shooting Closed Day
Shrine Nightime Assn. Schools Children Meet Exhibition
Washington State Live Stock Day P.E.O. Day
Swiss Colony Day Oregon Live Stock Indep. Telephone
Canada Day Okanogan County Day La Chai Pantomime
Woman's Board Day Creamery Operators & Yolo Co. Day
Oregon Day Motor Boat Regatta
Symphony Concert Motor Boat Regatta
International Congress of Women Day Agricultural Work Opens
San Francisco Day
Philippine Day Sheep Goat & Swine Show opens
Food Products Club & Dairy Day Am. Shropshire Assn. Day
Am. Berkshire Congress Forestry Day Zone of Plenty Day
Knights Templar Field Day Helen Keller & S.F. Teachers Day
Return of Art Smith Symphony Concert
Federation of Labor Florence Crittenton Conference
Lotta Crabtree Day Angora Goat & National Mohair Day
Farewell to Liberty Bell Joaquin Miller Day Fashion Show
Liberty Bell Departs Fashion Show
World's Light Harness Races Fashion Show
Abraham Lincoln Day Liberal Arts Gift Day
San Francisco Composers' Day
George Washington & N.S. Children Am. Rev. Day
San Joaquin Valley Day Naval Training Station Day
Arkansas Day "The Dolly's Frolic" Children's Dances
Poultry & Pigeon Show Opens Dr. L. D. Ricketts Day
New Orleans Day Poultry & Pigeon Show
California Los Angeles Hay System & Guatemala Coffee Day
Special Concert in Festival Hall
Poultry Show & Pigeon Show
Panama-California Exposition Day Convention League Day
Junipero Serra Day American Cornish Club
Thanksgiving Day Automobile Races
U.S. Navy Day Commodore Barry & S.F. City Admin. Day
The Day of France Belgium's Day
Winter Berry & Shrub Show A & N Emi. Men's Barbecue
Dog & Cat Shows Open U.S. Army Day
S.F. Fire & Police Departments Day Games on Marina
Honduras Day Electrical Prosperity Week
King Constantine Day Childrens Pet Show Opens
Children's Pet Exhibition Congress Day
Closing Day

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opening, over three years and eight months before closing. The greatest good fortune attended on these selections, for not the most daring and discerning prophet would be rash enough to undertake a prediction of San Francisco weather so far ahead.

From the beginning it had been the President's idea to conduct the Exposition the year around: from December 31, 1914 to January 1, 1916. He felt that such a season would have the greatest value in demonstrating the mildness of the climate, and that it would excite discussion abroad which would bring out the fact that this was a winterless land where visitors need not fear blizzards and snow. When in Europe, just before the first Portola celebration, Mr. Moore talked the "Year-Round Exposition," and his statements on its feasibility were received with the greatest interest.

But differences of opinion developed at home. Director Esberg was convinced by his studies of exposition attendance and its ratio to population that a year would prove too long, and that the additional expense of operating the plant beyond an ordinary six or seven months' season would have to be supported on about the same total of admissions, and of admissions and concessions revenues. The question was important and it took a long time to settle it, with much study of Government weather reports, but on April 2, 1912, the Executive Committee recommended to the Directors that Opening Day be March 1, 1915, and that October 31 be Closing Day. Fortmann was for opening on February 20. Stanton moved to amend by making February 20 Opening Day and December 4 Closing Day, each one a Saturday, and after long debate and a number of votes on these dates separately, the Board adopted the amendment.

Financial Prophecy

The world was duly notified. The friends of San Francisco in Congress were told of it in night messages by wire. Governors of domestic States, and ministers, consuls, and ambassadors abroad, received the information, so that inquiries of possible exhibitors might be answered and the work of preparing for participation facilitated. The fact that the Exposition, even if it did not remain open the year round, would continue from the middle of one winter until well into the next, excited much comment, for not in many cities would such a thing have been possible.

Three years afterward these dates proved to be the only fair days in their particular parts of the calendar.

On Opening Day there entered at the turnstiles and permit gates, 255,149 persons. The Columbian Exposition at Chicago had 137,557 on its Opening Day, and the Louisiana Purchase Exposition at St. Louis had an Opening Day of 178,423.

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On Sunday at San Francisco the attendance was 82,700; and on Monday, the day set for the Vanderbilt Cup race that had to be postponed, it was 129,619.

Thus the total for the first three days at San Francisco was 467,468. That at Chicago was 180,688; and at St. Louis, 284,122. And the postponed opening days at Chicago and St. Louis saw those expositions so unfinished that thousands of workmen admitted on permits swelled the entrance figure far more than was the case at San Francisco.

Tuesday's attendance, the fourth day, was 35,773, so that the half-million mark was passed in the first four days: the total being 503,241.

In that period Chicago had 204,856 and St. Louis 332,997.

San Francisco's Exposition was built within its construction budget, it opened on time and it broke all early attendance records. And the buildings, grounds, and circulation ways absorbed these crowds in perfect comfort. There was no crime, no drunkenness, no rowdyism. Before the beauty and grandeur on every side the people seemed to move about in a sort of silent awe.

Within twenty-nine days, to the night of March 20, two million people had entered the grounds and all previous American exposition attendance records for an opening month were broken.

The total admissions passed the half million mark in four days after opening, three of which were rainy. The first million of attendance was reached on the fourth of March, the thirteenth day; and the second million by March 20, the twenty-ninth day. The fortieth day, March 31, brought the total to 2,521,022; the three-million mark was reached by April 10, the fiftieth day; by April 19, the fifty-ninth day, another half-million mark was passed. The fourth million was turned on May 1, when 106,987 entered, making a total of 4,067,786.

Going Strong

It took the Columbian Exposition at Chicago 25 days to reach its first million admissions.

Of the total for the season, at San Francisco, 4,692,189 admissions were non-revenue; and in addition 1,057,146 consisted of return checks which it is necessary to include in the total in order to have a proper basis of comparison with the totals of other expositions. The non-revenue list constituted 24.85 per cent of the whole, and while it was a better showing than St. Louis made, was slightly larger than the percentage of such admissions at Chicago. The daily average non-revenue admissions came to 16,292.

The total admissions revenue for the season came to $4,715,523.05, which included the receipts from the sales of season books and of 40-cent coupons, made before Opening Day, but credited to the operating period,

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for which they were to be used. In addition to the gate receipts the Admissions Department took in $25,757.25 for permit photographs at $1 each, $2331.65 in overcash in the turnstile cans, and $2081.98 in permit deposit forfeitures and small miscellaneous items. The overcash arose through entrants dropping too much in the cabinets in their haste. If they complained to the inspector, he sent them to the Admissions office and they got their money back, but more than $2300 worth of this sort of carelessness did not take the trouble to ask for the refund. The pre-Exposition period yielded $223,744.25 in admissions revenue, and the post-Exposition period $44,343.30, making a total of $4,983,610.60.

The average gate yield per capita, for the season, free and paid, was close to 25 cents. The average per capita of paid was 35.9 cents. The daily average of season-book coupons deposited at the stiles was 12,249 and each had cost the bearer a little over 14.3 cents.

Over 28,000 photographic permits were issued: 22,065 to participants, 4,480 to employees, and 1612 to miscellaneous persons entitled to them. For sufficient reasons, the dollar fee for the photograph was in a number of cases remitted.

May 3, a rainy Monday, showed the smallest attendance of any day in the Exposition season: 24,007. The heaviest day's attendance was on Closing Day, December 4, when there were 459,022 admissions. The daily average, ex return checks, was 61,837. Including return check entrances it was 65,543.

Every Saturday on and after May 15 was made Children's Day, when those under 12 were admitted for 15 cents. Subsequently, Mondays were added to the Children's Days.

There were 23 days on each of which the admissions ran over 100,000. These were:

Opening Day, February 20, with 255,149; Washington's Birthday, for which the Vanderbilt Cup Automobile race was set (postponed because of rain), with 129,619; March 6, on which the Vanderbilt Cup race was run, with 135,673; May Day, which was also "Examiner" Day and Philippine Islands Day, with 106,987; Zone Day, May 27, with 104,484; Memorial Day, May 31, with 101,063; July 5, on which Independence Day was celebrated, with 190,846; the day of the arrival of the Liberty Bell, July 17, with 113,672; Newspaper Men's Day, Fraternal Brotherhood Day and Illinois Day, with 106,442; "Call and Post" Day, August 14, with 122,959; Labor Day, September 6, with 144,558; Admission Day, September 9, with 182,321; San Francisco Day, November 2, with 348,472; Sunday, November 14, with 100,595; Guatemala Coffee Day and

Crowded Hours

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Los Angeles Day, November 20, with 110,309; Sunday, November 21 (no especially strong attraction), with 112,665; Thanksgiving Day, November 25, with 137,229; the Day of France and Belgium, November 27, with 114,821; Sunday, November 28, with 161,920; November 30, which was Fire Department and Police Department Day, with 103,654; December 1, which was Honduras Day, with 109,332; December 2, which was King Constantine Day, with 117,943; Closing Day, December 4, with 459,022.

Only ten of these days occurred in the first two-thirds of the season. Thirteen fell in the last third, after August 30. And ten of these came after San Francisco Day on November 2—that is, ten of them came within the last three weeks of the season, beginning with Sunday, November 14. As the end approached people seemed to seize every opportunity to go, the holidays of course; so that in the last 21 days of the season there were only 11 on which the admissions fell below 100,000. The movement seemed altogether independent of special attractions, although some, like the Day of France and Belgium, had large drawing power.

There were 27 days of rain but it seemed like more. There were many other days that were over-cast and threatening. If they had occurred in the later stages of the period they might not have had so depressing an effect on the attendance but almost all of them occurred early, when people had more days than they could count in which to see the Exposition, so they postponed their visits unless they had engaged themselves for some sort of participation and the effect was very pronounced, especially along the Zone. On May 27, the Zone concessionaires held a celebration, with grand parades and other attractions, and succeeded in getting out 104,486; which was good for that part of the Exposition period and for the Spring, which was late, cold, and disagreeable beyond the recollection of old Californians.

By weeks, the largest attendance was that of the week of November 27 to December 3, inclusive, the last week of the season (although it did not include Closing Day), when there was a total of 753,682, in spite of several rainy days. The next greatest week was that of October 30 to November 5, inclusive, when the total was 682,525. The next greatest week in attendance was the opening week of February 20 to 26, inclusive, when the admissions were 695,000.

Story of the Weeks

Interest was keen during the opening weeks, having been prudently stimulated by many special events, and the admissions ran 418,105 for the week of February 27 to March 5, inclusive; 455,148 for the week of March 6 to March 12, inclusive; and 413,108 for that of March 13 to March 19, inclusive. Then the attendance began to slacken, largely on account of inclement weather, and ran 369,051 for the week of March 20 to March 26, and

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WOVEN BEAMS

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fell further, to 289,628 for the following week. The lowest week's attendance was 285,580, during April 24 to 30. The whole schedule of attendance by weekly periods runs as follows:

Feb. 20 to Feb. 26	659,000
Feb. 27 to Mar. 5	418,105
Mar. 6 to Mar. 12	455,148
Mar. 13 to Mar. 19	413,108
Mar. 20 to Mar. 26	369,051
Mar. 27 to Apr. 2	289,628
Apr. 3 to Apr. 9	376,617
Apr. 10 to Apr. 16	334,158
Apr. 17 to Apr. 23	360,404
Apr. 24 to Apr. 30	285,580
May 1 to May 7	321,583
May 8 to May 14	318,489
May 15 to May 21	375,353
May 22 to May 28	440,962
May 29 to June 4	392,703
June 5 to June 11	406,856
June 12 to June 18	360,297
June 19 to June 25	374,475
June 26 to July 2	365,315
July 3 to July 9	535,978
July 10 to July 16	417,157
July 17 to July 23	559,167
July 24 to July 30	471,958
July 31 to Aug. 6	490,265
Aug. 7 to Aug. 13	547,968
Aug. 14 to Aug. 20	544,940
Aug. 21 to Aug. 27	484,700
Aug. 28 to Sept. 3	487,268
Sept. 4 to Sept. 10	632,149
Sept. 11 to Sept. 17	407,535
Sept. 18 to Sept. 24	429,637
Sept. 25 to Oct. 1	390,136
Oct. 2 to Oct. 8	413,694
Oct. 9 to Oct. 15	426,311
Oct. 16 to Oct. 22	450,729
Oct. 23 to Oct. 29	464,454
Oct. 30 to Nov. 5	682,525
Nov. 6 to Nov. 12	435,758
Nov. 13 to Nov. 19	469,166
Nov. 20 to Nov. 26	605,417
Nov. 27 to Dec. 3	753,682
Dec. 4	459,022
Total	18,876,438

Owing to limitations on the number of automobiles, the revenue from this source was smaller than it might have been if the management had

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been willing to impose risks on the Exposition's visitors. As it was, automobile admissions brought in over $10,000.

Two hundred thousand dollars was appropriated to run the Department of Admissions for the season, and the cost actually came to $195,046.73, including $42,003.66 paid out for printing tickets and permits. Thus the cost of collecting was a little over 3.1 per cent. It cost eight-tenths of a cent to put a visitor into the grounds, whether he paid or not.

Of the total receipts of the Division of Concessions and Admissions, those of the Department of Admissions constituted 71.7 per cent.

The gate receipts for the operating season were exhaustively analyzed by the Exposition's certified accountants. Out of the total of $4,715,523, it was found that $3,501,769.50 was derived from 50-cent admissions. Of this sum the cash admittances yielded $3,166,266.50, and tickets and badges $335,503. Of the 50-cent tickets sold, $675 worth were unredeemed: that is, not used. The 50-cent admissions included 92,281 Opening Day badges and 175,942 San Francisco Day badges, but not the Closing Day badges, because they carried the privilege of passing in and out, and were so used; to such an extent as to make their revenue value about 22.4 cents apiece.

Tale of the Tickets

Forty-cent admissions yielded $447,948.40 of which $414,180.80 came from sales of family coupon books, and $2,883.60 came in cash, on special occasions such as St. Patrick's Day when a reduced rate was made. The balance of this item consisted of similar special reductions.

Twenty-five cent admissions for children yielded $94,471.75. The 20-cent special children's rate for St. Patrick's Day brought in $396.80. The 15-cent special rate for children on particular days of the week brought in $30,220.95. There was a child's book of ten-cent coupons and $11,060.90 was collected from the 10-cent rate. The five-cent rate for school children in classes of not less than twenty under a teacher and during school hours produced $12,239.25. There were over 244,700 admissions under this arrangement. Some miscellaneous items such as children's season books, participants' coupon books, and automobile admissions, together with the Closing Day badges, made up the rest.

Concessions, as a whole, did well for the Exposition—better than for themselves. The total gross takings of those that paid a percentage (and they are the only gross takings definitely known to the management), came to $7,497,022 for the season, from which the Exposition collected nearly 21 per cent notwithstanding the fact that many collections were deferred to accommodate distressed concessionaires, and of these a considerable percentage never paid.

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There was a pre-Exposition business by a few concessions, amounting to $99,142 the Exposition's collections from which came to $23,140. Collections for the operating season were $1,830,331. And there was a small post-Exposition business, of $15,148, mostly in the restaurant line, which paid the Exposition $4,137; so that the aggregate receipts from concessions came to $1,857,608. Against this there were losses by the Exposition to the extent of $258,249, arising out of efforts to keep on their legs financially weak concessions that still were valuable as attractions and hence as a protection to the gate receipts, which might have lost more than that without them; and there was an operating cost properly to be charged against this department amounting to $361,253—making the net concessions return to the Exposition $1,238,106. If the Exposition period were considered by itself the net return would be even higher: $1,272,318; and the book-figures alone indicate a loss on pre-Exposition business. But when the fact is taken into consideration that this Department has to be developed from nothing long before the Exposition is opened, and little would be saved by refusing to grant concession privileges during the period of its development, the loss becomes more apparent than real.

Concessions Business

Flat rates and bonuses, collected before and after Opening Day, and considered in the accounting as part of the season's returns, amounted to $497,445. The total business of those concessionaires that were on a bonus and flat rate basis is not known, but probably did not exceed $2,500,000; so that $10,000,000 would probably be more than the entire concessions turn-over. Tales of $30,000,000 to $50,000,000 were plentiful but apocryphal.

The aggregate returns to concessionaires on a percentage basis, after deducting the Exposition's percentage, came to $6,256,767, for all three periods. Yet there were a great many of them, their expenses of construction and maintenance were heavy, and most of them had a very unhappy time, especially in the early months of rainy weather and light attendance. On the Zone, or wherever else they built, they had to put up expensive and more or less artistic "fronts" and make their places of entertainment reasonably safe against loss of life in case of fire. All this added to the capitalization; increased the size of what is known in showman parlance as the "nut." Most concessions operated on a basis of 25 per cent to the Exposition but there were many at 20, some at 15, at 10, at 5, and some on flat rates.

Of the 455 concessions, on the Zone and throughout the grounds and palaces, these 15 took in over $100,000 apiece for the Exposition season:

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1.	Inside Inn	$675,726.68
2.	Desmond Supply Company	459,247.53
3.	Yellowstone Park (Including Old Faithful Inn, $331,904.63).	385,732.18
4.	Fadgl Auto Train	377,101.55
5.	Old Nuremburg Restaurant	353,757.44
6.	Y. W. C. A. Cafeteria	342,433.96
7.	Panama Canal	338,227.55
8.	Muller's Restaurant	301,021.34
9.	White Lunch	182,236.30
10.	Young's Restaurant	168,500.16
11.	G. A. Wahlgreen—Official Publications	146,291.03
12.	Safety Racer (coaster)	133,789.45
13.	Creation	121,266.05
14.	Electric Motor Chairs	112,845.50
15.	Marine Café	110,542.16

The Concessions revenue, for the season only, omitting pre-Exposition and post-Exposition business has been analyzed into the following classes and amounts, which will throw some light on the larger phases of this matter:

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BAKEWELL AND BROWN, ARCHITECTS

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EAST END OF THE PALACE OF HORTICULTURE

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	Per cent of Gross Receipts	*Gross Receipts*	*Exposition Percentage*	*Bonus*	*Flat Rate*	*Per cent of Total Revenue*	*Total Concessions Revenue*
Exhibit Palace Sales Privileges	3.5%	$ 263,812.86	$ 41,338.71	$ 1,000.00	$ 84,545.85	6.9%	$ 126,884.56
Miscellaneous Sales Privileges	14.4%	1,075,398.30	213,130.24	112,343.00	43,119.66	20.1%	368,592.90
Restaurants and Lunch Rooms	35.0%	2,624,271.35	422,936.12	42,550.00	18,687.50	26.5%	484,173.62
Shows and Spectacles	19.5%	1,459,995.49	280,075.42	87,311.76	6,861.61	20.5%	374,248.79
Rides and Amusements	11.2%	838,400.35	181,740.44	49,939.17	3,918.70	12.9%	235,598.31
Transportation Privileges	6.2%	465,580.88	121,638.21	10,200.00	5,000.00	7.5%	136,838.21
Miscellaneous	1.2%	93,494.54	23,116.92	9,200.00	22,767.95	3.0%	55,084.87
Inside Inn	9.0%	676,068.68	48,910.41			2.6%	48,910.41
Total	100.0%	$7,497,022.45[1]	$1,332,886.47	$312,543.93	$184,901.27	100.0%	$1,830,331.67

[1] This amount represents only the gross receipts of concessions which could be determined by the Exposition and, as it excludes the gross receipts of practically all concessions operated solely on a flat-rate basis, it does not represent the total gross receipts of all concessions.

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CHAPTER XXV

THE FREE ADMISSIONS BUREAU

TO the layman the matter of passes, or "permits" as they were called by the Exposition, might not seem to present any especially troublesome problems. But that is where the layman would be wrong. Questions of right and policy arise just here that threaten internal dissension and external bad feeling, and the job requires administration through a wisely devised system, by a firm and heroic executive.

You don't get rid of the difficulty simply by resolving that no one shall have a permit except those having business inside. Who those are that have business inside, and how important their business may be, and whether they are telling the truth about it or abusing their relations to the exposition, are questions that arise to plague any official that undertakes this critical responsibility; and they are large questions, because the results are large aggregates. On that executive's determinations will depend a good part of the revenues on the one hand, and vital relations of the exposition on the other.

War of Policies

He will find certain parts of the organization against him on questions of policy that are extremely delicate; and much amiability and lenience in the matter of permits, on the part of officials that are not charged as he is with responsibility for the largest gate receipts that can be gathered. For, the public, and friends of the exposition, and participants, and concessionaires, and exhibitors in general, will take all the permits they can get. They will take a million dollars' worth if it is handed out to them, and then wonder why the undertaking did not pay and who squandered all the money.

At San Francisco it was found, as it is in every exposition, that concessionaires often needed additional labor for an unexpected big day. At first the persons to render the service were admitted on emergency permits, handed them by the concessionaire, and these permits were greatly abused. Surplus coupons were freely passed out and even hawked about the city. In addition, the permits needed by exhibitors were a source of great inconvenience to the chiefs of the exhibit departments, and there were sinister possibilities of leaks at this point. Department chiefs very naturally like to

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make their exhibitors as comfortable as possible and do what they can to accommodate them, so that requests for permits are not apt to be scanned so exactly by them as they would be by the department responsible for maximum gate receipts. Moreover, the life of an exhibit department chief fits Mark Twain's description of human life in general very exactly, and the business of issuing permits on request of exhibitors is apt to be turned over to some stenographer or office subordinate.

For a time the thing was loose-ended, although the danger was plainly apparent and growing. A meeting was called, and was attended by the Directors of Works, Exhibits, and Concessions and Admissions, by the Commandant of the Guards and others, and all those with authority to issue permits were admonished to curtail their issues as much as possible. But that did not meet the situation and nobody expected it to; and in March of the Exposition year another system went into effect which cut down the abuse to such an extent that from 1100 entrants a day of this class, the total fell to about 400, overnight.

Eye of the Needle

An emergency gate was installed at the Fillmore Street entrance. There was no can for tokens, and no more daily admission tokens were issued to concessionaires, but if a dozen or so, or 50 or 100, extra waiters were needed the concessionaire had to apply to the Department of Concessions for their admission. An exhibitor needing emergency help applied to his department chief. The permit clerk of the Department of Admissions investigated the request, and if it was a just one he sent what was known as an Emergency Entrance Authority to the emergency gate, giving if possible the names of those entitled to enter.

The entrants were admitted through the stile, and at the close of the day the number passed in this way had to agree with the turnstile reading. If the request had been telephoned in, it was confirmed afterward in writing.

Concessionaires were notified that a supply of requisition blanks would be furnished them on application, and that all permits would be charged to their concessions until they were checked against their pay rolls. They were warned that permits issued and not accounted for would be charged at the rate of fifty cents apiece. "It will be to your advantage, therefore, to exercise considerable vigilance to assure yourselves that your permits are being used by those for whom they are intended." Inasmuch as the Exposition had in its possession the total receipts of the concessionaire, under the 100 per cent collection plan, it was in a position to enforce the regulation right down the list.

Through this method every legitimate admission was accounted for, and there were no tickets circulating through the community and building up the

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concessionaire's "good will" at the Exposition's expense. The immediate drop in this part of the permit list showed how far the emergency permits had been abused. The system was extended to the exhibitors and resulted in great convenience to them, for it enabled them to get their emergency service more readily and without question.

In addition to these early defects in the emergency permit system, there was at first some laxness in the regular permit issue. This was marked in the Division of Exploitation, where the temptation to generosity was greatest, and where, in fact, there is room for the opinion that liberality is wise and worth more in good will and publicity than it costs at the gate.

One of the Leaks

The traditional conception of an editor is that he is a glorious being of privilege and power, gifted with infallibility and almost with divine ubiquity—that he rides about the world on "passes" and could enter Paradise on his business card. The picture fades; but its outlines persist, and it made this a difficult field in which to draw the line of caution and economy. But the thing was helping to run up Conroy's percentage of non-revenue admissions and with it his temperature, and in common with the over-extended privileges in other departments it had to be reformed.

As a practical answer to the permit abuses, the Department of Admissions organized in May the Bureau of Permits, under B. C. Eichel, who had a hard job and did it well. It took diplomacy and firmness but he had them, and strife and friction were held down to the minimum. The whole permit system had been investigated by special inspectors, and the weak spots had been found and studied. In general, thenceforth, permits were issued by this Bureau on application of department chiefs.

Up to the time this system went into effect the free admissions constituted 34.6 per cent of the total. For the month of July, in spite of the admission of a large number of soldiers and sailors to participate in the ceremonies and parades of the patriotic month, including the reception of the Liberty Bell, it fell to 26.5 per cent of the total, and for the first half of August it was throttled down to 23.2 per cent. At St. Louis for the corresponding time the permits constituted 35.5 per cent, and at Chicago 25. Yet the control over permits was still divided with several functionaries having authority to issue. For example, the Superintendent of Customs and Deliveries issued permits for vehicles. It is the opinion of the Chief of the Department of Admissions that the permit-issuing responsibility and power should be absolutely centralized in a department of equal dignity and authority with the other departments of this Division, and that its decisions should be subject to review only by the Director of the Division and the President; otherwise the ruling of the chief

Central Authority

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"BEAUTY AND THE BEAST"

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of such a department as to whether an applicant is or is not entitled to a permit should settle it. Yet it was not found possible to maintain such centralization, desirable though it was.

Mere rules could never be depended upon to enforce a policy among so many volunteers, and in the case of workmen's weekly permits the regulations of the Bureau were supported by the substantial device of a cash guarantee that had to accompany every application. If a concessionaire or participant wanted four men for a week or less he deposited $10; and the scale ran up to $300 for any number between 100 and 200. In addition the applicant had to deposit $1 for each permit; and the application had to be approved by the Division of Works before presentation to the Bureau of Permits. Refund of the deposit was made on the permit stubs at the rate of $1 each and these had to be presented on the Monday, Tuesday, or Wednesday of the week following that for which they were issued. A forfeit of $5 was exacted for every stub not turned in, or every one misused. All the usual ticket safeguards, such as signatures, were thrown around the use of these permits.

There were similar provisions, but less onerous in the matter of deposits, in the cases of other classes of permit: those for seven consecutive admissions for single trips, for the term, and the emergency entrance authority. The Bureau of Permits kept actively at work until Closing Day.

The Chief of the Department of Admissions advised in his report that as a means of restricting the number of permits issued, but few forms be provided. During the latter days of the Exposition the only forms in use were cards given by the President to foreign and State dignitaries and Army and Navy officers; photographic permits for employees and participants; a signature permit with seven admission coupons for those not eligible for photographic permits; the single dated daily admission, the emergency entrance authority, a card permit for use in emergency by the local press, and the workmen's weekly permits.

Number of Forms

The Exposition reserved the right to revoke permits. Any evidence of alteration voided them. They were non-transferable, and were forfeited when presented by any other than the person to whom they had been issued. And the holder might be required to identify himself on demand of a gateman. Heads of all departments were directed to report in writing the cancellation of all photographic permits as soon as they were no longer required. This enabled the Department to make cancellation entries and post stop bulletins at the gates. The gatemen were very successful in lifting the cancelled books, and so helped keep this leak at a minimum.

As a matter of practice, operatives of the Permit Bureau went ceaselessly

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about among the many offices of the Exposition departments, and among the exhibits, examining into the applications, taking account of the numbers of people at work and the probable requirements, checking up on expirations, and finding out by consultation with the chiefs which concessionaires and exhibitors might still be drawing permits they no longer required. It was laborious, it was troublesome, and each day's examination into the matter produced debatable cases, but it meant revenue, and possibly the difference between debt and financial success.

After the Exposition had been running for three or four months, it was found impracticable to administer the whole permit system from the central bureau office in the Department of Admissions in the Service Building. On an average there were 20,000 photographic permits in use alone. To facilitate issue to such parts of the organization as the Division of Exploitation and the Live Stock Section, the Department of Admissions created in them sub-bureaus, supplying them with blank permits in quantities, and taking their daily reports as a check. The Live Stock Department sub-bureau was empowered to accept deposits and make refunds like the main office of the Bureau.

Division of Labor

The President's office always retained the power to issue permits, and here was handled a multitude of miscellaneous requests—but always in such a way as to preclude the possibility of troublesome precedents. Not a permit was ever issued except under a rule. If the applicant, or the person it was desired to compliment because of his official standing, did not come under any existing rule, the simple expedient was resorted to of making a rule under which he did come. It was the old and respectable device of special legislation in general terms, and it worked as well as though it had been done by the Legislature itself.

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CHAPTER XXVI

TO OPERATE THE PLANT

THE organism of an exposition is as delicate as a Swiss watch, and at times the results of slight interferences are remote and unforeseeable. When, on Opening Day, the Presidio superintendent took alarm at the drafts on the reservoir and shut off the water for a few hours, it did more than merely interfere with the fountains: it affected the work of the Division of Exploitation, for it deprived the photograph dark room of water and made it impossible to get out pictorial features for the Eastern press for awhile. And that drew a warm complaint from the New York office, three thousand miles away. On the occasion of a small fire in the Food Products Palace, midway in the Exposition period, it was necessary to shut off the electric current. That meant a stoppage in the circulation of brine, or cold water, or something, in the fish tanks, whereupon four or five valuable food fish and hard to replace ceased paddling and died.

Risks of Trouble

All the actuating machinery, human and otherwise, seemed to be geared together in a mechanism so delicately balanced that not a foot-pound of energy could be withdrawn nor a pound more load put on anywhere without some unexpected possible damage. That was what made retrenchment so difficult, when it seemed so easy—made it necessary before dismissing even a gateman, for the committee that had undertaken it to study all imaginable consequences of the decision. It made it imperative that the operating organization should consist of men whose qualities of discretion had been trained in the service of the Exposition itself, who were acquainted with its structure and functions and would have first-hand knowledge of all the probable consequences of any disturbance.

In the Divisions of Exhibits and Exploitation and the Department of Congresses, Conferences, and Conventions, the opening of the Exposition season made comparatively little organic change. But the operation of the mere physical plant was an undertaking in itself, on whose proper execution depended much of the efficiency of all departments and the impression the whole institution was going to make on the visiting public. This function

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naturally devolved upon the Division of Works, which had constructed the Exposition and afterward had to maintain it.

Much of the operating organization of this Division was made over from the tried and developed material of the construction period. Perhaps in an expert and formal organization view it might have been better to have wiped out the whole constitution of it on the night of February 19 and started afresh next morning, but owing to the circumstances of the finishing processes, that could not be done. There were too many small, uncompleted jobs, hardly noticeable by the public, but necessary to the operation of what the public did notice. Moreover, in Exposition practice it is economy to keep a good percentage of the construction crew in order to have it ready for wrecking the buildings and restoring the lands expeditiously and with maximum salvage. So construction organization was carried over to a large extent into the operating period, and was but gradually readjusted.

Trained Operatives

Yet, the transition from constructing to operating organization was a troublesome problem in the main, for there was no time to cut-and-try. While the original staff had been built up as requirements developed, the operating one had to be brought into being as rapidly as possible and under great strain. The plan had to be right. The purposes of one organization were not at all those of the other, so little help could be derived from what had gone before, except by way of acquaintance with the character and qualifications of the men, and with the operation and maintenance necessities of the physical plant itself.

Just before Opening Day, William Waters, who had been Superintendent of Construction, was made Manager of Buildings, including the exhibit palaces. Within a few months after opening, he succeeded to the functions of E. E. Carpenter, who as Chief Civil Engineer had had charge of the roads and grounds; and as the contraction of force went on, Waters took over the supervision of the fire prevention plant. Much depended on his firm and competent execution of these important trusts, and others that fell to him as head of the Department of Buildings and Grounds.

The force responsible to Waters for the proper upkeep of the Exposition buildings, as that force was organized just previous to opening, consisted of a supervisor for each one, besides the superintendents of installation put in by the Division of Exhibits, and from fifteen to eighteen men for each. The supervisors had to take general charge of the buildings, and see to the proper maintenance of their utility services, the work of the janitors, and the enforcement of the rules of the Division of Works. As the booths reached completion and the interior construction

Force of Janitors

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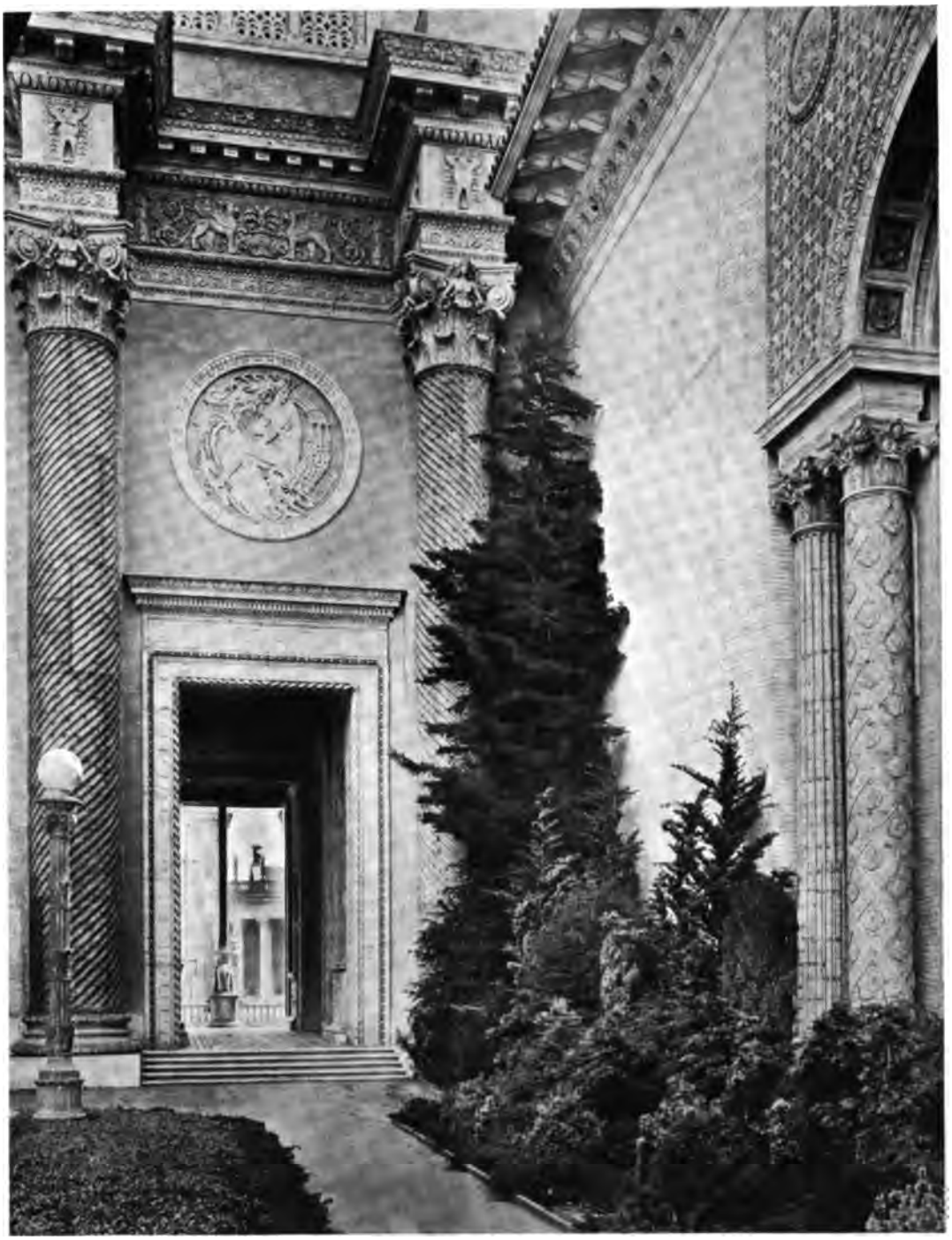

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AN ANGLE IN THE VENETIAN COURT

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activity subsided it was found practicable to reduce this force, and ultimately it came to consist of a total of four supervisors and thirty-three janitors: one supervisor, nine janitors, and a truckman for the exhibit palaces; supervisor for Festival Hall with three janitors, a stage carpenter, and an electrician; and a supervisor and six janitors for the Service Building, the Press Building, and miscellaneous properties. The California Building, which was the host building of the Exposition and housed more of the Exposition social functions than any other, had to have a supervisior and eleven janitors, with an elevator man, a cook, a steward, a maid, and a doorman.

The crew that cleaned the grounds at night only swept the paths and gutters, as the roadways were "swept" by a vacuum cleaner. For hauling materials and workmen about there were nine motor trucks and eleven drivers, and they provided service for all departments, for both buildings and grounds.

The Department of Electrical and Mechanical Engineering under Guy Bayley, had not merely to look after the supply of electrical service, gas, and water, but it took jurisdiction of the pyrotechnic displays and the execution of W. D'Arcy Ryan's searchlight and steam illumination schemes. This was an organization, or an integral part of the main Works Division, that commanded men of fine technical skill and executive ability—civil engineers in the various engineering branches, most of them young men, but with previous experience at responsible posts for large corporations. They were quick, flexible, effective, and could turn to in any emergency, as they did time and again, to save the situation at a crisis. They were the "pinch hitters" of the organization, and they were needed; for, with the best of planning, crises will arise in affairs so complex. This department had to have meter readers, inspectors, and a strong maintenance crew to keep the miles of wiring and piping in order, the pumps in the wells from sanding up, and the fountains from going out of commission.

Bills for Service

By a natural transition, that versatile general utility office, the Bureau of Land of pre-Exposition days, which had become the Bureau of Land and Permits when building-permits were necessary, now turned into a Billing and Permit Department of the Division of Works, and had charge of billing the participants, from the Race Track to the east end of the Zone, for gas, electricity, refrigeration, compressed air, salt and domestic water, telephones, garbage collection, electrical connections, sewer connections, and a lot of little plumbing and construction jobs of a miscellaneous nature that outside contractors could not conveniently do. It issued permits to contractors and received their bond or cash deposit to

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assure compliance with the rules. One man was assigned to attend to the billing for gas, electricity, and water, another for telephones, and another for garbage collection. There was a bookkeeper and a man assigned to help check and post; and there were two stenographers to cover correspondence and take care of office detail. It was somewhat like the provision that has to be made for such work by a public utility corporation; but while it was on a smaller scale, there was more variety, for within the grounds the Exposition was several kinds of public utility corporation, and entitled to a profit on the services it supplied. Forms had to be composed for all this work and men broken in to execute it, in the midst of a jam of applications for connections and services that threatened to swamp the Department.

The permit fees, connection fees, and cash bonds were collected by the Permit and Billing Department and paid over to the Cashier, in the Comptroller's Department.

The "Rules and Regulations" of the Division of Works, which had been compiled by Markwart, Assistant to the Director of the Division, constituted the law and the gospels on all subjects connected with physical construction within the grounds. They corresponded to the building laws of a city, and being bound all together in a pamphlet of over a hundred pages with an index, and distributed to all participants and contractors, they put everybody on his notice and imposed uniform conditions and practices. In this way they were invaluable in many a complicated situation arising out of the effort to hasten construction over so large a field. They headed off conjecture and delay. If a contractor wished to know if he might build a certain thing in a certain way, all he had to do was to look in the little brown book. If it wasn't there he couldn't do it, and that settled it. After the Exposition was built and in operation, the tariff of fees and prices for connections and for utilities there set down became the basis for charges to consumers of the utilities the Exposition supplied. Hence the Bureau of Permits had a very solid foundation under it when making out the bills, and every participant knew just what his rate would be.

Fast Rules

In spite of the fact that some 880 men of those that had been engaged in planking the Race Track and cleaning up the grounds were laid off on the night of February 19, the Opening Day pay rolls approximated some 3,820 individuals.

The staff at first was too large, which was a good and conservative fault and, in a way, intended, for it was felt that the organization must be ready for all contingencies. Retrenchment was attempted and was to some degree successful, and after a little oscillation between too many and too few the

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organization settled to a norm about July, when the pay rolls showed about 1,900, and thereafter shrank by small degrees.

Considering its temporary nature, the Exposition was built, operated, and wrecked by a wonderful organization. There was little time to correct mistakes in engaging its various human units, and there was no permanent tenure for a single one of them to look forward to. The institution was, as Ambrose Bierce said of the mule, "without pride of ancestry or hope of posterity." It had defects inseparable from all things extemporized to meet a transient need. Yet in spite of its imperfections it wrought a miracle of coördination and concerted activity—wrought it, on the whole, cleanly and squarely and without chicane or scandal. The efficiency of its labor may be seen, in a physical aspect, in the fact that there was little loss of life in the construction epoch, and there were no disasters, no fatal fires nor falling grand stands, during the Exposition season. There was not even a failure of gas or electric service, nor a disappointment of the Exposition audiences about expected entertainments. You could have set your watch at any time for 288 days by the siren on the Machinery Palace or the beginning of almost any programmed event, and when so set your watch would have been within a few seconds of standard time. Attendance in excess of expectations, exhibits astonishing in their scope and variety, at least ninety-nine out of every hundred promises fulfilled to the letter, in an atmosphere of art and beauty and fitness such as the world had not seen in one spot before, all attest a success that could not have come except through an organization of the utmost efficiency and expert skill.

A Grand Result

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CHAPTER XXVII

A FEW ITEMS OF EXPOSITION HOUSEKEEPING

HOWEVER glorious in art and intellectuality an exposition may be it will have to give some attention to the disposal of its garbage. And it will produce a great deal. Visitors will be in a care-free and happy frame of mind, and so will dispense rubbish freely about the grounds and courts, in blissful enjoyment of the certainty that someone else will pick it up. There will be a large amount of superfluous lunch. There will be quantities of packing material to dispose of, and waste of various kinds produced by the exhibitors and concessionaires.

Art and Garbage

The Chief of Construction had made a construction budget, and a water budget, and shortly before Opening Day he made a garbage budget, anticipating that there would be certain definite kinds and quantities to dispose of. Under the circumstances it was practically impossible to make a very definite forecast as to quantities, but at least it gave a starting point, and so was helpful.

To get rid of this refuse four methods were canvassed: towing it to sea, hauling it to the city incinerator and selling the organic matter to a reducing plant, constructing a disposal plant on the grounds, or entering into some arrangement for the installing of a plant by some contractor on an exhibit basis.

The fourth was the one adopted. An arrangement was entered into with a manufacturer of garbage reduction machinery whereby he became a working exhibitor and undertook to erect a plant from his own designs, west of the Race Track, and collect and dispose of all garbage during the Exposition period. He was to collect by means of motor trucks operated by neatly uniformed employees, who would pick up full cans and leave others in place of them. The arrangement carried certain exhibit privileges and had value as a demonstration of model methods.

The original contractor was C. D. Crouch, but he assigned the contract to the C. O. Bartlett & Snow Company, builder of garbage reduction plants, which became the exhibitor. The plant was very complete and did its work well.

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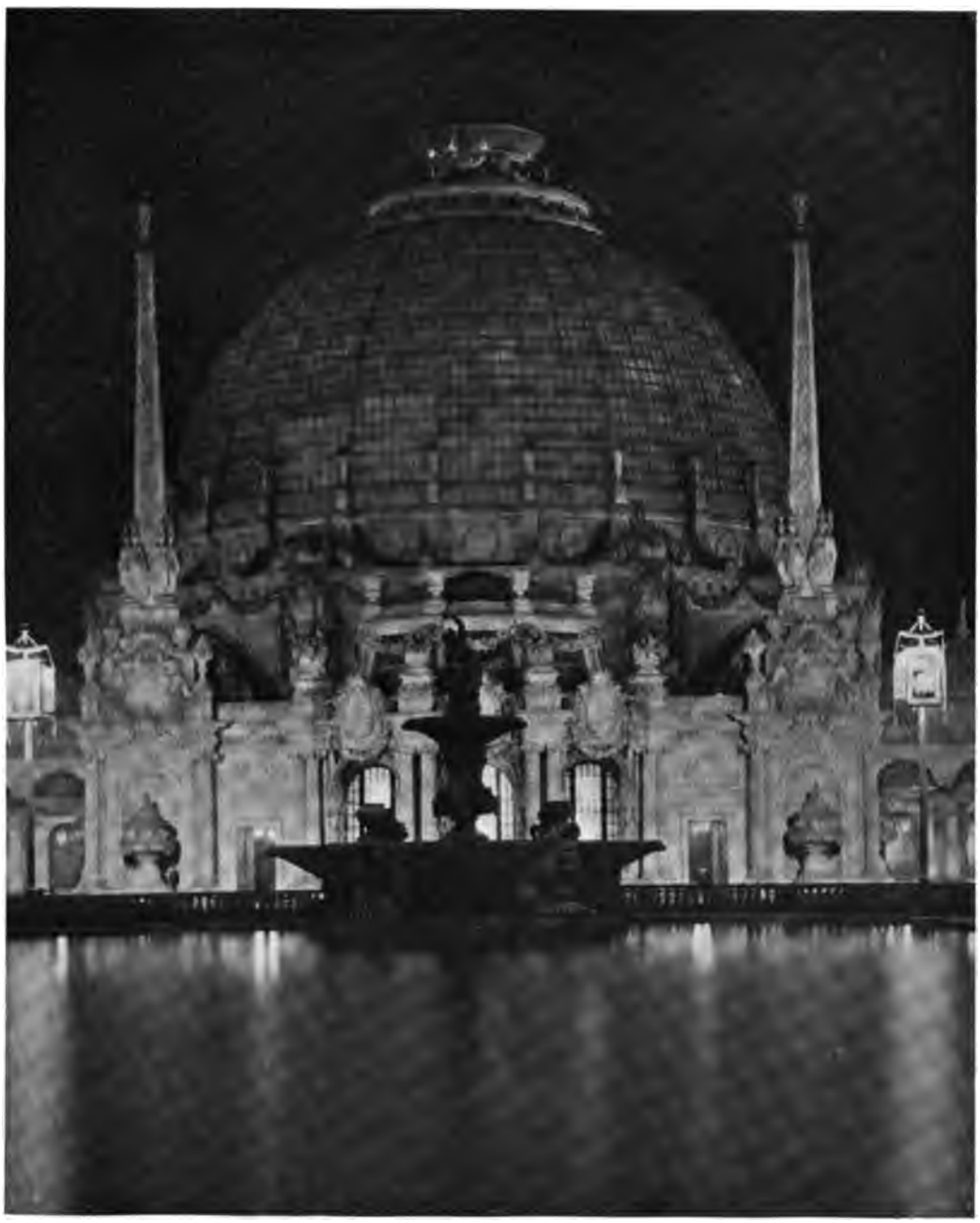

PHOTO BY DR. E. O. JELLINEK

THE LIGHTED PALACE

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The refuse production (street sweepings and stable litter) was an uncertain matter, and it developed after Opening Day that the average quantity of all waste was less, and the cost of collecting the street sweepings and stable litter was more, than it had been possible to estimate. So, evidently, it was equitable to modify certain conditions of the agreement. As the collections were made at night the uniforms were dispensed with; and the Exposition undertook to remove the sweepings and the stable litter to an outside dump. The street refuse averaged about 12 tons a day and the stable waste about 18.

Omitting street sweepings and manure, definite records for which were never developed, the garbage yield for the nine calendar months was:

	Wet Garbage (Cubic feet)	Dry Garbage (Cubic Feet)	Total
March	20,160	68,013	88,173
April	17,843	52,426	70,269
May	17,909	66,987	84,896
June	16,499	64,939	81,438
July	18,301	69,898	88,199
Aug.	17,931	65,197	83,128
Sept.	10,145	37,606	47,751
Oct.	14,060	50,527	64,587
Nov	14,185	48,321	62,506
Total	147,033	523,914	670,947

The wet garbage ran at the rate of about 30 pounds to the cubic foot and the dry at 12.

For the collection of this material the Exposition put into service 1,891 large garbage cans, of which 95 were for wet refuse in the foreign and State section, and 142 for dry; 275 were for wet garbage for the amusement concessions and restaurants on the Zone and 78 were for the public along the amusement street; 278 were for wet garbage produced by the exhibitors and restaurants in the exhibit palaces and 18 were for public use in the same section; and 317 dry garbage cans were for the use of the public around the exhibit palaces, courts, and gardens, from Fillmore Street to Baker. The contents went to the reduction plant at the rate of 111 cans of wet and 175 of dry garbage, daily average, and 380 cans of dry garbage was burned daily, on the average, outside the reduction plant. Five hundred and fifty-four cans were used as substitutes for those in transit to the plant or in process of cleaning there; for they had to be washed—at the rate of 195 a day. And there was a total depreciation equal to 134.

Refuse in Quantity

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The separation of wet and dry garbage was a very important matter in this vital part of Exposition housekeeping, in order that the wet garbage might be reduced to tankage and the dry be used as fuel, and was imposed by rule. From the tankage was made grease, garbage meal for stock, and fertilizers. When a can was found in which the wet and dry were mixed, the inspector put in a card with a charge on it for double the customary rate; so that restaurant proprietors and their help soon learned to keep things in convenient shape.

Bills rendered participants for the garbage removal service were issued from the Department of Billing and Permits of the Division of Works, and were collected, like the other utility bills, by the Comptroller's Department. They were based on daily reports coming to the Billing Department in the shape of "material tags," specifying the service, and bearing the signature of its recipient.

Exhibitors were given the privilege of sweeping their exhibit spaces into the aisles within an hour after closing, and if they did so the Exposition janitors collected it without charge. Those that delayed, or had enough waste to require refuse cans, were charged 25 cents for every bundle, box, package, or can. Sweeping gangs started work on the closing of the palaces at 6 o'clock, and all the aisles were swept up and the refuse was deposited in sacks. At midnight a truckman and a porter passed through all buildings collecting Exposition waste and that of exhibitors, and took it to the entrance of the building. Collection tags were made out in duplicate and the next day presented to the exhibitor for his signature.

The Exposition cleaned its streets partly by contract and partly by its own labor force. And inasmuch as asphalt surfaces could be machine swept, there was found to be a great economy in asphalt coverings of an inch or so for the macadam, although it was not supplied everywhere. Moreover, these surfaces did not have to be sprinkled. The contract called for labor and material, teams, apparatus, and all tools to sweep and clean asphaltic surfaces by the use of a motor-propelled-and-actuated, rubber-tired machine. The one used was the Butler Sanitary Street Sweeper: a pick-up and part vacuum device, which was, under the terms of the contract, subject to review as an exhibit. Pavements too narrow to admit this machine were to be cleaned, under the contract, by hand.

Modern Equipment

The contractor was to receive 40 cents a thousand square yards on a basis of a minimum performance of 250,000 square yards a day, and the Exposition was to have the option of ordering 70,000 additional daily. The work was done at night: between 11 p. m. and 9 a.m. All surfaces not cleaned under this contract were taken care of by the Exposition through

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a night gang, at first, of 50 men and five foremen. This covered about 150,000 square yards of roads, 139,000 of court pavement and 100,000 of other open areas, and included paths and gutters. Rakes were used on the pink sanded ways. The sweepings of the night gang were deposited along the roadside to be taken up by motor trucks, which also took the deposits of the contractor's machine. A day gang of 22 men and two foremen, in white uniforms, went all over the grounds, including the parts covered by the contract, with brooms and wheeled pick-up cans, fighting the mounting floods of litter and keeping things as clean and presentable as possible until the machine and the night gang could take hold again.

This work abated after the early part of the season, as construction and installation activities subsided, so that it was possible to take care of cleaning, outside the contract, by a night force of 21 men with a foreman, and a day gang of 13. Hence the cost fluctuated, but the machine process under contract was always the cheaper. In the early part of the season the work done by the night and day gangs including the motor-truck drivers came to about $250 a day; and considering the area covered in this manner as 393,000 square yards, came to about 63½ cents per thousand square yards cleaned. Over 1,000,000 square feet of road and other ground area had to be sprinkled but as the macadam had a good surface the expense was not high. Most of the water used went for 73.45 acres of garden and lawn. Salt water was used on the Race Track, and to a limited extent in other quarters, and saved some costs of fresh water.

The Exposition bore no little resemblance to a paternalistic municipality, in supplying all sorts of public utilities except, perhaps, public baths, and intramural transportation, the latter of which went to concessionaires on a percentage basis. Besides gas, water, electricity for power and light, telephone service, garbage collection and rubbish removal, it had planned and partly arranged to deliver compressed air and steam, but for these last two there was practically no demand. To keep apples in good order and live fish comfortable there were in the Palace of Horticulture and the Palace of Food Products, refrigeration plants installed as working exhibits, and bills for this service were rendered by the Exposition under an arrangement with the owners. In the Machinery Palace the big Diesel engines of the Busch-Sulzer Company and McIntosh & Seymour, generated direct current which was conducted into the Exposition main lines and delivered to certain exhibitors that needed it, and they were billed in the same way. These engines were, in their turn, supplied by the Exposition with salt water for certain phases of their operation and were billed for it; but the amount supplied was small.

Services Supplied

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The distribution of electricity, gas, and water, and the telephone service, were handled by the Department of Mechanical and Electrical Engineering. Meter readers, inspectors, and maintenance crew were under that jurisdiction and all complaints were referred to it.

For billing purposes the territory served was divided into five sections and the bills went out at intervals of five days up to the twentieth of the month, so that a pretty continuous flow of them was maintained, with an even load on the force. Reports of all these accounts, showing an analysis of the utility bills, were made out every day, which gave a comprehensive view of the utility services without referring to individual bills. A transcript was made, as a vehicle for the transmission of bills to the Comptroller.

The miscellaneous charges included many things peculiar to an exposition: grading for participants, garden work, plants, loam, renting fire extinguishers, renting contrivances in the construction days for making travertine.

There were about 1,600 of these different accounts, which involved rendering, first and last, approximately 28,000 bills. About 1,100 consumers of electricity, gas, and water necessitated over 11,600 bills, the 275 telephone subscribers required about 3,000 bills, some 900 customers for whom more than 80,000 cans or bundles of refuse were removed required some 5,100 bills; and all sorts of miscellaneous charges called for 8,000 more. During the nine and a half months of the operating season the Exposition rendered an average of 65 bills a day, of an average daily of about $1,920, or over $57,000 a month.

Collecting System

The total business of this sort for the construction, operation, and post-Exposition periods, including garbage and rubbish disposal, was well over a million dollars: to be exact, $1,033,631. From this activity there were receipts for services rendered participants, concessionaires, and exhibitors, amounting to $768,912. During the operating season 54,337,433 cubic feet, or 406,444,000 gallons of water were purchased and a little less than half of it sold at 20 to 30 cents a hundred, and $53,947 was collected on this item alone. The water cost $37,690 so there was a profit on actual purchase and sale, if no account was taken of outlay for installation, of $16,256. But the transactions in gas were larger. The gross cost on this item was $131,440, and the collections came to $85,099. The cost of talk by telephone came to $101,806 for the operating season, and from it $86,432 was collected. But greater still was the business in electricity. That service cost, for the operating season alone, $394,640 and yielded receipts of $348,509. For apparatus rented from the Pacific Gas & Electric Company, the Exposition paid $58,848.

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PAUL WAYLAND BARTLETT, SCULPTOR

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LA FAYETTE

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The Exposition had its own asphalt kettle and trucks for sand and gravel. Of the 7,000 benches and 4,000 chairs provided, a considerable number was held in reserve at the Musical Concourse and had to be carted from this open-air storage when required. Breakages were frequent, and the fractures had to be hauled to the Service yard and reduced by carpenters. Half the work of the carpenters was for special days and special events. The sawmill turned out mill-work for all departments, supplying what was needed for the construction of booths, ticket offices, and floats and set scenes for the many pageants and spectacles.

Keeping It Going

The plumbing force kept the high- and low-pressure water systems, the sewers and the fixtures in repair. And every two weeks an engineer of the Pacific Board of Underwriters went out to the grounds and inspected every hydrant.

There were about 60 moving-picture theaters in the palaces and foreign and State pavilions, a feature that had never been exhibited in this degree by an exposition before. As part of the fire precautions, the operators, many of them inexperienced at first, were repeatedly warned and instructed about the proper care of the stocks of inflammable films it was necessary to have about. W. M. Johnson, who had had charge of the installation of the fire prevention arrangements, and G. M. Robertson of the Pacific Board of Underwriters, went around ceaselessly teaching the elements of safety from fire, adding in this way personal care and vigilance to all the mechanical protection.

There were heating plants in the California Building, Festival Hall, and the Palace of Horticulture, and there was a small steam boiler in the Court of Abundance that furnished steam for the torches and cauldrons there. This took several engineers. Festival Hall had to have a stage carpenter and an electrician.

More special events took place at San Francisco than at any other exposition, and it took a strong crew to see that enough seats were on hand at the right places, that ropes were stretched for reserved enclosures, that platforms were built for the speakers, and that these platforms were properly decorated with rugs and palms and greens. The motor trucks were continually sweeping about the grounds under great loads of green benches and solid-bottomed chairs, men were always setting up little posts, reeving lines through them, and then taking them down again. For this sort of work it was necessary to detail a foreman and 11 laborers, and their work was served in part by the battery of motor trucks.

A great many boys and strong-armed young men aspired to profit by the cultural opportunities of the Exposition without bothering the gatemen

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at the stiles. This was especially true of the members of that fraternal and benevolent organization for mutual benefit and protection known as the North Beach Gang. They seldom got by the Guards, but they were very persistent in their efforts, and kept two men busy pretty continuously repairing breaches in the fence.

Sanitation was a vital household care of the Exposition city, and a special bureau was instituted to secure it. The proper collection and disposal of garbage came within its purview, but in addition it had to look after the prevention of fly-breeding, the sanitation of toilets and quarters, the supervision of restaurants and eating-places, and the suppression of communicable diseases in all forms, if possible. At the request of the Exposition management an officer of the United States Public Health Service was directed by the Surgeon General, under authority of the Secretary of the Treasury, dated March 31, 1913, to assume the duties of Chief Sanitary Officer in the Exposition grounds. Surgeon John D. Long was detailed for this office and performed its functions until October, 1914, when he was transferred to the Philippines; after which, for awhile, there was no special supervision of sanitation.

Everything Sanitary

On January 27, 1915, Senior Surgeon C. C. Pierce of the United States Public Health Service was directed to take charge of sanitary work at the Exposition. The Zone was building up, primitive peoples from strange lands were coming in, and there were many workmen and employees of foreign commissions on the grounds. All aliens were given anti-typhoid vaccine, many that needed it were vaccinated against smallpox, and all were examined for trachoma, tuberculosis, and other communicable diseases. The water for the Exposition was analyzed and its source and methods of purification carefully examined. And the fact developed from the examination that the Exposition plant in Golden Gate Park and adjacent territory was furnishing better water than most private corporations in this country.

At various times some of the concessions developed cases of diphtheria, chicken-pox, scarlet fever, measles, and mumps, but they were promptly discovered and isolated, and no secondary cases occurred. Without such precautions there might have been serious illness among participants, employees, and the public.

Dr. Pierce had assisting him in the work Assistant Surgeon N. E. Wayson, United States Public Health Service, who made the chemical and bacteriological examinations of water. The work done by these officers was not compensated except by the Government, and their services were in the line of duty. There were two sanitary inspectors continuously at work

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looking over the concessions and other likely places, and they were paid by the Exposition. In general inspection work the Guards helped materially.

The grounds and buildings bristled with flagpoles, from which acres of bunting in the Exposition colors streamed in the breeze. It took a seamstress and two flag-men to keep this bunting and the other decorations in holiday order.

As for the fountains, whose jets were supplied by pumping the water of the pools through them over and over again, they were the care of the Mechanical and Electrical Engineering Department, which had a corps of trained "trouble shooters" to look after the motors and pumps, as well as the rest of the electrical installation of all sorts. These men reported to Carlson, who had headquarters in the Tower of Jewels, and some of them were always on hand to rush about on bicycles or in one of the official automobiles and repair breaks before the public or the participants could detect an interruption of service. There was another "trouble house" east of the Machinery Palace, where two line-men with a small automobile were ready to take care of troubles in the aerial conductors and other electrical apparatus of the Zone. And the Pacific Gas & Electric Company kept men on the grounds to repair the gas system.

Trouble Shooters

In addition to sewers and palaces and fountain pools, live stock barns and corrals and a poultry house, a press building, fire houses, entrances, and a number of other structures of a miscellaneous character, here are a few odd items the Exposition had to have:

Sleeping quarters for the Guards, located in galleries in ten of the main exhibit palaces, with separate entrances outside the buildings; and quarters for about 42 in the upper story of the Zone fire station. Provision was made for a total of 555 Guards. For offices and Guards' quarters, 266 toilets, 310 basins, 57 urinals, 50 slop sinks, 50 shower baths, and 23 bath tubs. (The total of plumbing fixtures installed by all interests on the grounds was about 6,250.)

Twenty-five sentry boxes for the Guards in stormy weather.

Wagon sheds, store houses, and offices in the Service yard.

Stables, for a maximum of 300 horses used in grading and hauling operations. These were built by the general grading contractor.

A machine shop with three drill presses, a pipe and bolt cutting machine, a lathe, shaper, and power hack-saw. This was in the Machinery Palace during construction days and then went to the Service yard.

An engine house for the Exposition Terminal Railway, east of the Machinery Palace.

Twenty-six toilet rooms, in palaces and other exhibit structures, and

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three public comfort stations on the Zone. Stations with the most central locations had rest rooms with separate outer entrances for the cashiers.

A fumigating station, with a plant inspection room, for the Palace of Horticulture.

A hot-water heating-plant for this palace, in a small building immediately south of it.

An Enlisted Men's Club House in the foreign and State section.

A floored camp for the Marine Corps, with a mess hall and kitchen, a bath house for the men, and bathing accommodations for the officers.

Quarters for visiting military organizations in the old Fontana warehouse, east of the grounds: officers' quarters, bunks, lavatories, shower baths, club room, toilets; on three floors, to accommodate 1,350 men and 85 officers. No kitchen was provided, as they could obtain meals from a concessionaire.

Four warehouses with 52,726 square feet of space, near the ferry slips and railroad terminals in the northeast part of the grounds. Another, open-sided, was built for the storage of empty packing cases belonging to exhibitors; a great accommodation, with a revenue yield.

Second story in a warehouse for officers of United States customs officials.

Three grand-stands at the Race Track to accommodate 25,900 persons, with parts of the space fitted up for athletic quarters and offices for the Director of Athletics; baths and toilets and dressing-rooms for the athletes, with a strong-room for their valuables, a lounging room and buffet, all to accommodate 300 men. The grand-stand cost, without accessories, $.95 a seat. A dollar a seat should be ample allowance, unless by the time of the next exposition a dollar has become a much less important matter than it is at this writing.

Grand Stands

A cooling-shed for polo ponies, with 42 stalls.

Judges' stand for the automobile races, with provision for newspaper correspondents and telegraph operators; score boards 12 by 30 feet on the roof.

Several band stands. The one in the Court of the Universe was 41 feet in diameter and was sufficient for a band of 86 pieces. One near the Fillmore Street entrance would accommodate a band of 90 pieces. A circular platform was built in the Zone, 50 feet in diameter, for bands or dancing, and there was a band stand 41 feet in diameter in the Music Concourse near the Inside Inn that would accommodate a band of 102 pieces. The Concourse itself was terraced about it, was about 200 by 350 feet in area, and would permit the seating of 11,000 persons.

Green houses, lath house, and a boiler and potting room for the plant nursery in the Presidio.

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"DANCING THE GRAPES"

FROM THE MURAL BY FRANK BRANGWYN FOR THE COURT OF ABUNDANCE

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High tension building for electrical research—described elsewhere.

Scintillator house, 230 feet long, on the Yacht Harbor mole, with a double decked roof for 48 searchlights, and the motor and generators to serve them.

Transformer vaults in the palaces, and in the foreign and State section.

Offices in palaces, on galleries commanding a view of the interior, for exhibit department chiefs; with jury rooms.

Boilers and steam distributing system for steam effects in the Court of Abundance, and the placing of a Southern Pacific 90-ton locomotive on the breakwater opposite the Scintillator pier, connected with fixtures emitting steam generated in the locomotive, to be illumined by the "Scintillator."

Pipe from the Hawaiian Building to the Yacht Harbor to connect with boats bringing salt water from far out at sea for the fish in the aquarium.

Bunkers at the Yacht Harbor for rock from the quarries across the Golden Gate.

Steam rollers (leased) to compact the roads and keep them in condition: two special six-ton tandems, two ten-ton tandems, one eight-ton tandem and two ten-ton three-wheel macadam rollers; to which were added five more at the height of the road-making activity.

Fire alarm and police signal systems.

Ferry slip, and rock breakwater for it.

One twenty-ton locomotive crane, leased.

One one-ton storage battery truck crane, with two-ton trailer, leased.

Ten electric storage battery trucks, 4,000 pounds capacity, leased.

Pink sand.

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CHAPTER XXVIII

THE POWER O' GASOLINE

IN the operation of the Exposition plant, the automobile played a great and useful part. It multiplied men. It aided personal conferences between department and division heads, it assisted personal inspection, it hauled benches and potted palms and trouble shooters and Persian rugs and lumber. It saved strength, and that invaluable and irreplaceable commodity, time.

No other great international exposition had been able to avail itself of this magic carpet and annihilator of distances. Although there was a good automobile exhibit at St. Louis, and a cross-country run had been made to the Louisiana Purchase Exposition from New York, Boston, Philadelphia, and Chicago, President Francis drove about the grounds on official business with a pair of horses, and no automobiles were seen on the exposition roads except as parts of parades, and as objects of curiosity because of their novelty.

Using Progress

The Panama-Pacific International Exposition had a large battery of automobiles and auto trucks, which it operated from a central garage with its own outer gate, near the Service Building. Oil, gasoline, and tires were continuously supplied like any other material through the Purchasing Department. There was a superintendent of automobiles, and he had a corps of drivers—21 about Opening Day, subsequently cut down to five, because department heads, secretaries, and others needing pretty constant transportation about the grounds learned to run their own cars. All repairs were made on the grounds, for the Exposition had its own machine shop and vulcanizing plant.

There were 34 light touring cars for official use. They were furnished with pennants certifying that they were official cars on Exposition business, so that the public could make no mistake and suppose them to be enjoying a special privilege. Every pennant was numbered plainly, so that any accident or damage could be reported. Three of these touring cars were for the use of the Comptroller's office besides one for the distribution of mail, there were two for the Guards, in addition to the Commandant's, there was

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one for the Live Stock Department, one for stores and supplies, one for the general office work of the President's office, one for the Traffic Department, one for the Department of Admissions, and three for the Concessions Department. In addition the Admissions Department had a car for gate collections, which it operated from noon until 11:30 at night, picking up the cans at the turnstiles. This was exclusively a money wagon and had a special wire-caged body. The Department of Concessions had two cars with special bodies, which were continually ranging about collecting the concessions takings. The intercommunicating system of the Exposition had to be continued, but under far more strenuous conditions than when it was merely a matter of having a boy handle it among the rooms of an office building, with two deliveries a day to the grounds. Offices that had been neighbors down town, found themselves scattered over several miles of territory, but still had to communicate. This was taken care of by a machine operating under contract.

A Note Carrier

The Cadillac Company supplied two ambulances on an exhibit basis, for the use of the emergency hospital. They were very fine cars, one a four-cylinder and the other an eight, and they hauled thousands of cases of prostration and minor injury to the hospital in the Service Building with the maximum of comfort and celerity, besides handling the more serious cases with a speed that meant the best chance of life for the sufferer.

The Director of Works, whose personal supervision was almost continually needed about the great plant, operated a touring car. The various activities of the Division of Works required about a dozen.

There were two cars for delivering stationery and other supplies among the offices, a truck for the plumbers, three trucks for the lighter kinds of utility work, and seven larger trucks. The total number of trucks came to fifteen.

The Traffic Department had ten small electric two-ton trucks with expansion beds in almost continuous operation delivering exhibits and supplies, and this battery was augmented, for heavy work, by an International Harvester machine truck.

The automobile undoubtedly minimized operating costs. The Exposition's automobile service had been gradually expanding throughout the construction period, but for the great rush of Opening Day several "jitneys" were hired from private owners, without which the vast demands of that occasion could not have been met with any adequate efficiency. In the time-keeping department of the Division of Works, the conclusion was reached that one man with a machine could do the work of three men afoot.

Very few accidents were reported and no serious bodily injuries, al-

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though the cars were continually responding to hurry calls in cases where they had to make their way through large throngs of people.

In addition to the cars enumerated here, it should be remembered that the apparatus of the Exposition Fire Department was entirely motor driven. In fact, at the Panama-Pacific International Exposition in the year 1915, a horse-drawn vehicle was a rather unusual sight, just as at St. Louis in 1904 a motor-driven vehicle had been.

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PATIO OF THE CUBAN PAVILION

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CHAPTER XXIX

AN EXHIBITION HOSPITAL

AFTER the very earliest stages of construction, no one in the Exposition grounds, from the most distinguished visitor to the poorest denizen of the Somali Village, was ever beyond the reach of prompt medical and surgical help, if he needed it. The Exposition's hospital was a working exhibit and a hard-working one at that—an exhibit of the United States Public Health Service, and under its control. Its physical equipment included the latest models of surgical appliances, medical works, and hospital furniture. Much of this equipment formed working exhibits, classified in the Department of Liberal Arts.

It was an emergency hospital only, but it had four wards and ten beds, which seemed to be a sufficient provision, though no more than sufficient. Very few cases remained over night. If a calamity had occurred it was capable of some expansion for first-aid work in the reception rooms and other spaces. Fortunately, not so much as a flagpole blew down in the grounds, and there was always enough staff to render complete service. The doors were never closed, and no charge was ever made.

For Emergencies

Forty-nine cases were treated on the Opening Day of the Exposition, 43 the day following, 30 the day after that, and 48 the day after that. These were days of large attendance, and many of the cases were of visitors overcome by fatigue. During the Exposition season the cases numbered 7,071. Many of them, especially infection cases, had to be treated several times, so that to December 4, 1915, the total cases came to 9,096, and the number of treatments reached 14,337.

A hospital is a necessary appurtenance of an exposition, not only for the treatment of the injuries and prostrations certain to occur, or the detection and isolation of infectious diseases before they start an epidemic, but in order that there may be a truthful record of the extent of injuries to serve as a just limitation on casualty liability.

The United States Public Health Service is a part of the Department of the Treasury, and has in its charge the enforcement of Federal quarantines

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and other sanitary measures, as well as the maintenance of Government hospitals for sailors in the merchant marine. With the coöperation of the Citizen's Health Committee, it had saved San Francisco from bubonic plague, in 1909; so when it came time to organize a hospital for the Exposition, the Exposition's President, who had been Chairman of the Executive Committee of the Citizens' Health Committee, naturally turned to Surgeon General Rupert Blue, head of the Public Health Service, as to a comrade in arms, for Dr. Blue had been in charge at San Francisco for the Government at that critical time.

Aided by Government

With the approval of the Secretary of the Treasury, Dr. Blue detailed Surgeon R. M. Woodward from the Marine Hospital in the Presidio to take charge in the Exposition, and between February 18, 1914, when Dr. Woodward was ready to open, and the opening of the Exposition, a year and two days later, the hospital had treated 2,025 cases; mostly surgical and arising out of injuries to workmen on the grounds. In spite of prompt medical aid, between 15 and 20 cases ended fatally, though no exact account of the deaths could be kept, inasmuch as some that occurred after removal from the hospital were not reported back, and were only heard of by accident.

To make a beginning, Dr. Woodward was given the ground floor of the south wing of the Service Building, containing 18 rooms, and was asked to turn it into a hospital but not to spend any money doing it—just like that; no Rockefeller endowment, no funds at all. It would have to be done by virtue of the prestige a great movement such as an exposition has.

The doctor's first act was to gather a stack of catalogues of surgical instrument and surgical furniture manufacturers, list the necessaries of a model hospital, and proceed by argument and persuasion to entice these manufacturers to make working exhibits.

They did not rush carload lots at once. A sewing machine would be needed to make aprons for the surgeons and nurses, and to keep the linen in order, and this was promptly supplied by the Singer Machine Company. It was the first "working exhibit" of the institution, and it was alone a long time. Now, as Dr. Woodward said, "You can't open a hospital with a sewing machine," and most of the other manufacturers were modest, and slow at seeing the advantage to them in making the sort of display that was wanted. However, by dint of much correspondence, indicating possible benefits and showing what competitors would probably do, he finally got them coming, and once started they did handsomely. Few supplies had to be bought. In this work of equipping with exhibits, the Doctor had the aid of the Department of Liberal Arts. The

Too Much Modesty

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Exposition bought the operating table, instruments, instrument cabinet, and some minor items.

Some of the equipment marked the farthest advance, in certain directions, in this field of human service. There was an X-ray apparatus that took pairs of stereoscopic photographs, so that on setting a pair in the frames made for that purpose, and looking at two slanting mirrors, one had a view in perspective of the fractured foot, or jaw, or skull. This introduction of the third dimension into X-ray photography was of the greatest value—it showed just how deep an injury was.

There was an electro-magnet for extracting iron and steel particles from the eye, or other part of the body. It was strong enough to spoil a watch, and would catch and hold a bunch of keys thrown against it.

There was a pulmotor; and there were sterilizing machines that opened and closed by pressure of the foot, to avoid the risk of contaminating dressings or instruments by handling. There were electrical massage machines, and the most delicate devices for measuring pulsations and taking blood pressure. There was a perfectly equipped operating room, and a dark room, and a dispensary and a pharmacy and everything else that a hospital requires.

And beyond that, there was a library with a 30-page catalogue, containing over 1,100 works on medical and surgical subjects. It was unique, as a collection, because there was not an old book in it, and it evoked much favorable comment from visiting surgeons, who could find here the latest authorities on matters in which they were interested. Often one found a book of which he had not yet heard, and could take the publisher's name and send for it.

Medical men came here and read these works for hours, oblivious to the life and bustle and ceremonial of the Exposition going on around them. Some readers paid the library the supreme compliment of larceny—stole the books. One hundred and forty-eight volumes disappeared in this way; for such is devotion to science. In this competition Blakiston's publications took the grand prize, 73 having been stolen. Appleton's came next, with 27 larcenies, and then Saunders' with 16. These were all allopathic. Works on homeopathy were safe, whether from more general honesty in homeopathists or greater drouth in their texts can only be surmised.

The Latest Library

In addition to its service as an exhibit, the hospital had a vital function to perform in Exposition administration, for it kept minute records of every case treated, which records, filed with the General Attorney after the Exposition was over, were to stand as a protection of the Exposition and

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its contractors against unjust claims for damages, or for claims for larger damages than the nature of the injury warranted. In many cases the records were supported by the stereoscopic X-ray plates, so that there could be no challenge of accuracy. Over 1,000 plates were exposed, and those showing an absence of bone injury proved a great protection against unscrupulous financial ambition.

Reports of every injury were made immediately to the casualty company insuring. There were very full daily reports, and individual reports, to the Director of Works, and there were clinical histories of every case, all card-indexed in the most modern way. Within reason, no question could be asked about a case that the records of this hospital would not answer fully and scientifically.

The two Cadillac motor ambulances were in constant attendance during the Exposition days, and these, too, were a working exhibit. In construction days there was one motor and one horse-drawn vehicle. Down to the close of the season they responded to 1,011 calls, weaving through the crowds at high speed, but not one of the thronging visitors was struck by them. There was a standing order that one should attend every fire in the grounds, and that the Fire Chief should know where it was parked. By means of one of these ambulances injured persons were often rushed to a down-town hospital after emergency measures at the Exposition, within an hour of the accident.

For Remembrance

It is a pity that the transient character of the institution would not permit the Exposition Emergency Hospital to stand as a permanent monument to the zeal and executive skill of Dr. Woodward. In the midst of the season he left San Francisco for Rochester, Minn., for surgical treatment, and died there, on July 16, 1915. There was not a person that knew him, especially in the Exposition force, that did not profoundly regret his loss. It was felt that he had become a vital part of the working staff. He was not only admired for his abilities, but was much endeared to his fellow workers by a genial and kindly nature.

After Dr. Woodward's decease Dr. J. M. Holt took charge until October 19th, when he was relieved by Dr. L. L. Williams. The visiting staff consisted of Assistant Surgeons L. O. Weldon, W. M. Jones, and J. F. Worley. Emergency assistance was rendered at times by Assistant Surgeons W. F. Fox and T. C. Galloway, Jr. At various times during the Exposition period, Drs. H. H. Dignan, Charles N. Leach, N. E. Williamson, and Edward C. Ernst served as resident physicians. The resident nurses were Miss Elizabeth Scott and Miss Berthleen Caldwell; and the non-resident nurses Miss Elizabeth C. Lewis, Mrs. Wanda Grass, Miss Mary O'Connor, and

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THE GUARDIANS OF THE ARCHES

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Miss Lucius Newell. F. R. Meisener was clerk, Murray O. Lundy was in charge of the motor ambulances; and the representatives of the exhibiting company, the Cadillac, stated that these vehicles were returned to them substantially uninjured. Chauffeurs were detailed from the Exposition Guards and gave the best possible service. There was a ward maid for general cleaning.

The medical officers that participated in the operation of the hospital were those assigned to duty in the United States Marine Hospital at the Port of San Francisco, and their salaries were paid by the Government. The resident medical staff was provided at the expense of the Exposition. For every sort of ailment they treated every sort of man, from European scientists to American workmen, and bush-headed, blanketed, thin-shinned citizens of Somali Land, right off the Zone. The cases ranged from the expected fainting spells of elderly people to dislocations and fractures, and bumps by electriquettes and falls from Fadgl trains. The calls were of great diversity. Doctors were called to the ostrich farm because an ostrich had cut its leg, to the baby incubator concession on the Zone because one of the storks had swallowed a nail, and to the alligator farm to make a post-mortem of a dead alligator.

General Practice

One class of case recurred again and again, with sufficient frequency to mark it as a peculiar exposition trouble, and that was the attack of epilepsy. For numbers of the victims of this trouble the Exposition had an extraordinary fascination, and its excitements a bad effect. They could not be kept away, but went again and again, well knowing that they exposed themselves to almost certain attacks of their malady, but knowing, too, that they would be well taken care of. In more than one case members of the sufferer's family learned, when he was missing from home, to go directly to the Emergency Hospital, where he was practically sure to be found.

Here are the exhibitors who, their interest once aroused, sent apparatus and supplies, in a fine spirit of coöperation and service, for this model institution:

Singer Sewing Machine Company, sewing machine.
Electric Sterilizer Company, complete equipment for sterilizing room.
Bausch and Lomb, laboratory equipment.
F. Bissell Company, vacuum cleaner.
Cadillac Motor Car Company, two motor ambulances, complete.
Draegar Oxygen Apparatus Company, pulmotor.
Hart & Hutchinson Company, steel lockers.
H. W. Johns-Manville Company, electric light fixtures.
Johnson & Johnson, ligatures and adhesive plaster.
Lincoln Rubber Company, rubber gloves.

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Meinecke & Company, adjustable beds and hospital sundries.
Monument Mills, counterpanes.
Ohio Chemical Manufacturing Company, anæsthetic apparatus.
Parker, Wilder & Company, sheets and pillow cases.
Powers Weightman-Rosengarten Company, drugs and chemicals.
Rucker-Fuller Desk Company, furniture.
Scheidel-Western X-Ray Coil Company, complete X-ray equipment.
Victor Electric Company, X-ray machine, giant magnet, electric engine, and other electric apparatus.
General Electric Company, transformer and Coolidge X-ray tubes.
George W. Brady & Company, "Paragon" X-ray plates.
Green & Bauer, Inc., X-ray tubes.
Watson Mantel & Tile Company, tiling for operating room.
D. Appleton & Company, medical books.
P. Blakiston's Son & Company, medical books.
F. A. Davis & Company, " "
Funk & Wagnalls Company, " "
Lea & Febiger, " "
J. P. Lippincott & Company, " "
C. V. Mossby, " "
Rebman Company, " "
W. B. Saunders & Company, " "
William Wood & Company, " "
Boericke & Tafel, " "
Dr. J. M. Ward, " "

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CHAPTER XXX

THE MODEL POST OFFICE

IN the Fall of 1914, the Keyless Lock Company of Indianapolis began work on one of the largest all-steel post office equipments ever installed, for the Post Office Department's exhibit at the Exposition. It occupied 11,000 square feet of space in the Palace of Mines and Metallurgy, and formed the "plant" of a model postal station, which served all the workers, concessionaires, and exhibitors in the Exposition grounds, and made deliveries to the people living in that part of the city lying north of Broadway, and from Jones Street west to the Presidio.

The station cost about $40,000 to put in, and about $45,000 to operate for the Exposition period—though the operation was largely chargeable to the San Francisco Post Office, from which were drafted the superintendent, clerks, and carriers. For accounting purposes it was a model branch of the San Francisco office. Joseph H. Callan, Assistant Superintendent of the City Delivery Service of the Post Office Department, came out from Washington to oversee the installation and operation of the exhibit, for Mr. O. Chance, Chief Clerk of the Department. F. B. McStocker of San Francisco was superintendent of the station, and he began with fourteen clerks, two collectors, six carriers for the grounds, and thirteen for the territory served outside. There was a special service operating an automobile, to handle the parcels post collections and deliveries and the general transportation. The installation began on January 1, 1915, and in a month the model station began to handle mail.

Complete Branch

It operated all forms of postal service: parcels post and postal savings bank, in addition to selling stamps and collecting and delivering letters. There were 500 lock boxes with combination locks. Eight collections were made daily in the grounds. Two deliveries a day were made from booth to booth in the exhibit palaces, exactly as among the houses, offices, and stores of a city, as soon as the building superintendents could furnish the maps. In the grounds there were between seventy-five and eighty letter and package boxes.

A post-card mailed at this station was ready at the general delivery

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window within three minutes, so that appointments to meet friends could be made with facility. One could mail himself a picnic lunch by parcel post in the evening and receive it at the Exposition by noon next day.

The station had a complete equipment of the latest labor saving machinery for this sort of work. There were belt conveyors for carrying letters and packages from the "drops" to the facing and canceling tables; "sweep-off" basket conveyors, one of which encircled the workroom floor and carried special delivery letters between the mailing, city, and special delivery sections, while the other operated throughout the nest of carriers' routeing cases, and carried back to the distribution section "mis-thrown" and "marked-up" letters; and there were many more carriers for various other purposes; all installed by the Lamson Company of Boston. There were representative types of the latest canceling machines (equipped with the Exposition cancelation stamp) and an automatic "pick-up" table for facing letters.

Overlooking the workroom floor was a visitors' gallery with a view of the whole operation of handling the mails. Here one could drop a postal into an open chute and trace its travels until it reached the pouch which was to take it on toward destination; or, if addressed to himself he could watch it reach the general delivery window, and go there and get it. On Opening Day, 25,000 people visited this gallery and saw the office operate, and about the same number came on the following Monday.

Visitors' Gallery

One hundred and seventy savings accounts averaging $55 were carried. The force handled 3,000,000 pieces of first class outgoing mail and delivered 3,500,000 pieces of first class incoming; in addition to 25,000 pieces of registered. The money order business exceeded $250,000, and stamp sales were about $100,000. There was a large parcel post and second class business.

In connection with the Model Post Office, there was a fine display of stamps, including every issue since the adoption of this method of collecting postal revenue. There was also a moving picture theater where films were exhibited depicting various features of Post Office operation. A very popular film was one entitled "What Uncle Sam Does for Two Cents"; and another, "Marketing by Mail."

Another part of the Post Office exhibit was a Model Railway Post Office, in the Transportation Palace. Most people have an idea that a railway mail coach is a mere freight car for letters (and recently for parcels), with a man or two in charge to see that nobody robs it. To the majority of the more than 8,000 people that filed through this car on Opening Day, and of

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THE MODEL POST OFFICE

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those that followed on succeeding days, it was quite a surprise to find it really a post office on wheels, with a complete equipment for sorting and "throwing," or distributing, mail and parcels (for the old term "throwing" still hangs on in the Department, although it would be quite dangerous with a dozen eggs or a comb of honey).

This railway post office was built by the Pullman Palace Car Company for the Southern Pacific Railroad, and was loaned by the latter corporation to the Department for exhibit purposes. In the car was a faithful reproduction of the work of the Railway Mail Service, illustrated by made-up packages of dummy letters, and of newspapers, wrapped singly and in packages. These had been supplied by business houses and by local newspaper publishers. They were even stamped, for realism. There was a crane for taking mail sacks, on the run, and two experienced railway mail clerks were on hand to demonstrate the operation of the equipment. Entrances were arranged that looked like the front porch of a small white cottage, but these were not intended for use when the car afterward went on the road.

Souvenir post-cards, ready stamped, were distributed to the public for immediate use. Writing desks with pens and ink were provided. The post-card bore an attractive picture of the pneumatic tubes used in many eastern cities for transporting mail, models of which were displayed in the Model Post Office. Let no one suppose, however, that Uncle Sam was carelessly giving away an indeterminate number of one-cent stamps. Far be it from his frugal thoughts. The cards and the stamps were both furnished by the firm that made the tubes depicted.

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CHAPTER XXXI

INSURING AN EXPOSITION

AN agent of the Exposition, sent abroad by the Chief of the Department of Fine Arts, collected at Buda Pesth a number of valuable Hungarian paintings. War broke out, men were called to the colors, supplies were commandeered, and suddenly there was neither labor nor lumber available to pack these priceless things in the ordinary and orthodox way. Necessity bore another member of the justly celebrated Invention family and the agent got a moving-van and packed the pictures in it. The railroads were crowded with troop trains, but he managed to back the van on to a flat car and have it hauled to Genoa where the "Jason" took it aboard, and it was finally hoisted out of her hold at San Francisco with all its strange Hungarian advertising signs upon it, hauled around to the door of the Fine Arts Palace, and discharged—the first moving-van through the Panama Canal.

Moving in Hungary

Had any of its concentrated and largely subjective values been destroyed by any of the vicissitudes that might have befallen a van-load of paintings or a crate of crockery shipped by land and sea in that unusual manner, and exposed to every variety of accident, some insurance company or companies would have had to pay an agreed price. The Fine Arts Palace contained a matter of eight or nine million dollars' worth of such extremely delicate and fragile wares (over 11,400 different objects), on which the Exposition carried at one time or another, about four and a quarter millions of such security. But when the devotee of art thrilled to some wonder work shown here, that esthetic person in that ecstatic condition of soul could hardly have been expected to thank the insurance brokers and the insurance companies for having made it possible for some of these irreplaceable things to be seen in San Francisco, half a world from their homes and their owners.

Without insurance there could be no exposition. And into that extremely intricate business, with its close appraisals of the real, but never exactly definable, element of risk, an exposition injects a few complexities of its own.

The placing of the Exposition insurance in general was made the particular charge of Vice-President Hale, and it was largely through his

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knowledge of the subject that the management was able to do this part of its business without a most burdensome expense. But the negotiation of the many contracts also required special and expert skill in this technical field, and that was supplied by a committee of insurance brokers consisting of Albert M. Bender, Chairman, Johnson & Higgins, and J. B. F. Davis & Son.

The Committee

These gentlemen served without pay. They procured an amendment to the constitution of the Insurance Brokers' Exchange to enable them to return their commissions to the Exposition, and it took months to do it. They were always on call, and made heavy sacrifices of their private interests to advise the management on the effect of the many perplexing changes arising in the course of Exposition development that threatened to upset negotiations and raise the rates, or even to invalidate policies after they had been signed. The guidance of this Committee was invaluable, and at one crisis prevented the Fine Arts insurance from assuming a phase that threatened to make the premiums a crushing load.

The insurance of works of art is but an item of the subject, but illustrates some of its special phases better than some other items. Here it is necessary to consider subjective values and market values, and it is necessary to know what those market values probably are; for your Exhibits Division executives are seeking to borrow people's art treasures and must, in most cases, offer to insure them for what it might cost to replace them if there were any way to replace them, or for a just compensation if there is no substitute.

It is necessary to know all the risks, for every form of risk has to be covered, from the time the workman's ladder is placed against the wall to take the picture down, to the time when it is returned to the place it left. If that workman puts his head or his hand through the canvas, or drops it, or falls with or through it or both; or if, the picture having been hung in the Fine Arts exhibit, some small fire cooks the pigment off it, or some vandal slashes it, or some zealous janitor tries to brighten the dusty hues of a delicate pastel by wiping it with a rag or his honest, horny hand, somebody must pay, and the owner must know somebody will pay, and that he will get the money.

Yet, in regard to insurance on a Fine Arts exhibit there are two general classes of works of art. They may be borrowed from private collections of men that have no desire to sell them and are not exposing them for that purpose. This is an accommodation, and a coöperation with the Exposition authorities for the public benefit, and the insurance must be of the sort called "wall to wall," meaning back to the wall again. Then there are paintings loaned by artists in the hope of sales, and

Varying Interests

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on these the Exposition took out merely transit insurance, holding that as they were in the Fine Arts Palace for the benefit of the artist, as well as for the public, he could quite properly insure them himself if he wished to, for the time they hung in the galleries.

As the value of a work of art would be extremely difficult to agree upon after a loss, a special form of valued policy was adopted, and the insurance companies agreed to pay, in case of loss, the price decided upon in advance between the owner and the Exposition's agent.

The claims were payable to the Exposition. But paintings were borrowed from wealthy men of cautious habits who had little real business information about it, long before there was any certainty that the Exposition would be a financial success and its funds safe from attachment. Some of these gentlemen were not enthusiastic about insurance payable to somebody else, and that somebody else a corporation for a temporary purpose, out in California, whose stockholders could not be assessed. So it was agreed by all parties in interest that the Chief of the Department of Fine Arts might in such cases indorse the policy to the owner of the painting or other art work he was borrowing.

To get the necessary amount of this wall-to-wall insurance written it had to be distributed among several kinds of company—fire, marine, accident, or other specialty—and the analysis and placing of it was a large and arduous work. It was finally accomplished by the brokerage firm of Wilcox, Peck, Brown & Crosby of New York (the bulk of it being written by American companies) with the assistance of Mr. Sydney Townsend, an insuring member of Lloyd's who was afterwards killed in the European War. The rate was $1.75 per cent on domestic and $2 on the foreign risks. There was about a million dollars of transit insurance, and about three and a quarter million covering the whole time of absence from the owner's possession.

In this particular field Mr. Trask's knowledge of the commercial values represented, of the complex nature of the risk, and the dollars-and-cents responsibilities involved, was of vast assistance.

As to insurance on the Exposition buildings, that was carried during construction by the contractors as stipulated in the contracts. After completion, the Exposition carried insurance on them, but in greatly diminished amounts, owing to certain business exigencies that will be stated later. It was hardly more than enough to cover the expected salvage after wrecking, for in Exposition practice it is far better to build protection than to buy insurance, since a burned building cannot be replaced in time to be of much value, whether you get the insurance money

Insuring Buildings

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PHOTO BY DR. E. O. JELLINEK

THE ARCH ILLUMINED

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or not. So the Division of Works built and organized fire protection in the manner described in the chapter on Modern, Model Fire Prevention.

All contracts of the Division of Works in connection with the construction of the exhibit palaces and other buildings, contained a clause binding the contractor to obtain and keep in force fire insurance to an amount not less than 75 per cent of the value of any structure as it progressed; and the policies had to be written with companies acceptable to the Exposition. As the Exposition supplied the greater part of the lumber, additional insurance was required of the contractor to protect that, while in the piles, to its full value. Progress payments were made monthly, and, when requested, under proper safeguard, bi-monthly on these construction contracts; and as fast as estimates were made of work in place, insurance was applied for on this basis.

The Exposition was therefore protected to the full value of any building, in that 75 per cent of it was covered by the insurance, the remaining 25 per cent being retained out of each progress payment made to the contractor; the lumber remaining in the piles being added at its full value. Separate contracts for plumbing, electric wiring, steel erection, and similar work were similarly treated. Upon the completion of any building, and its acceptance by the Exposition, all insurance was canceled; except on the California Building and the Service Building.

Towards the end of the construction period, when the aggregate value of the buildings went into large figures, some trouble was experienced in placing insurance, as the local companies had written as much as their managements would allow, and as a consequence a considerable amount was carried by Lloyd's of London and to a limited extent by so-called "surplus line" companies. The policies of the latter companies, not authorized to do business in California, were valid only after the State Insurance Commissioner had been satisfied that the regularly licensed companies would not take all the risk offered; and as full compliance with all the requirements of the law was always insisted upon, the amount of such insurance was very small.

Local Limits

The total insurance actually delivered to the Division of Works during the construction period amounted to a trifle over $5,100,000.

Files of policies a foot thick would sometimes accumulate for a single building. The Division of Works handled the policies and kept track of the execution of the details of the business through its Bureau of Land and Permits, under R. C. Maclachlan.

The rate of premium that was charged during the construction period for the exhibit palaces varied. In the earlier stages when the risk was not so

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great the rate was set at $1.50 per cent. This, however, was soon increased to $2.50, to $3 and finally to $5 per cent at which it remained for all of the palaces and courts forming the main group. The Palace of Horticulture, Festival Hall, and the California Building, being more or less isolated, did not have the exposure of the main group and were written at rates varying from $2.25 to $3 per cent. The Palace of Fine Arts being of concrete and steel took a rate of seventy-five cents. Some of this insurance, however, was written at twenty-five cents. The rate on the colonnade and rotunda was $1.50.

The risk was kept down through frequent inspection by experts, and the correction of dangerous practices on the part of exhibitors, concessionaires, and participants, so that after the buildings were completed the Exposition felt disposed to carry its own insurance. Owing, however, to the loan that had to be obtained from the banks late in 1914, and the conditions imposed by them (and owing also to certain conditions in the Vanderbilt and Oelrichs leases), it became necessary to insure the palaces.

It was not all plain sailing. Here were applicatons for a large amount all at once, on buildings close together in one quarter of the city, the effect of which is, in general, to send up the rates. Moreover the property was subject logically to a sort of indeterminate sliding appraisal. Before Opening Day it had an immense collateral value in addition to its cost, because no matter how large a claim might have been collected against it in case of loss, it could not have been replaced. In ten short months it was to have almost no value at all because its usefulness would be over. With everything propitious and the thing well managed some salvage might be expected, but there was also a chance that destruction by fire might save a heavy wrecking charge.

Extra Hazards

In addition, the policies had to cover not only the very fire apparatus in the palaces, but the vegetation and garden ornaments within 50 feet of them; and to provide that the buildings insured might be on property not owned in fee simple by the Exposition. And the insured had to be permitted without invalidating the contract of insurance, "to work at all hours, day and night; to make additions, improvements, alterations, and repairs . . . to construct additional buildings and additions, including the introduction of additional exhibits, machinery, and other apparatus and appurtenances; to use oil for fuel; and to do all such work and keep and use on the premises all such materials, apparatus, products, and supplies and to make such changes in the use or occupancy of the above described buildings as the interest of the insured or tenants may require." The term "building" was made of necessity very comprehensive, and covered every sort of Exposition structure, from the palaces themselves to the ornaments of the courts.

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There was carried an item of $566,000 to cover the main exhibit palaces, apportioned to correspond with the value of each, and in addition insurance was continued on the California Building to the extent of $165,000 as a protection of the contractual obligations of the Exposition to the counties. A small amount was carried on the Service Building and its contents, and the mural paintings were insured for $100,000. Some hay at the Stock Yards was insured. The sum total of all the premiums paid by the Exposition for the various kinds of risk during the operating season came to $109,397.39.

Season's Premiums

Prior to the renewal of policies for the Exposition season the Board of Fire Underwriters promulgated the rates, to take effect November 2, 1914, and sought to impose two special conditions: policies were to carry a clause exempting any loss not exceeding $2,500, and another clause that automatically reduced the face value of the policy by 10 per cent a month without any rebate of premium; the latter condition being based upon the theory that inasmuch as the Exposition was to last but 10 months its value would decline to nothing. But when it was shown that the amount of insurance sought for the palaces was no more than the estimated salvage value and would totally disappear under the diminution clause, that clause was waived and policies were finally written on an estimated salvage basis, and kept in force throughout.

The rates were determined after consideration of all the safeguards against fire the Exposition had provided, and ranged from $.87 on the Palace of Fine Arts to $4.50 on the Palace of Machinery; but, considered in conjunction with the conditions it was originally intended to attach to them, it might be claimed that they failed to reflect a proper appreciation of the Exposition's efforts to minimize the hazard.

The $2,500 exemption clause was not to be attached to policies covering contents although such policies were to contain a clause obliging the owner to maintain insurance to an amount not less than 90 per cent of the value of his goods. This latter provision, in the event of a fire, so operated that the owner would have to absorb that part of the loss represented between the actual percentage of value which he did insure and 90 per cent of the value which he agreed to insure.

It may be said that the elaborate provisions made by the Exposition were offset somewhat, from the standpoint of the fire hazard, by reason of the size of the buildings, their proximity to each other and the absence of bulkheads underneath them. Also it must be conceded that underwriting companies are accustomed to consider a moral hazard attaching to insurance of this character, which would be

Moral Risk

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eliminated by the monthly diminution in value clause and probably justifies it, from their point of view, assuming insurance of more than salvage value.

The policies retained the exemption clause relieving the underwriting companies from any liability until damage should be sustained beyond a value of $2,500, caused either by one fire or by several fires, in any one building, which in the aggregate should cause a loss in excess of this amount.

The rate charged to exhibitors for booths and improvements, with the 10 per cent diminution clause and the 90 per cent co-insurance clause added, varied from $1.18 per cent in the Palace of Fine Arts to $5 in the Palace of Machinery.

State and foreign pavilions took a rate of $2.50 per cent. Other detached buildings erected by participants were insured at $3 per cent and the Southern Pacific building at $6 per cent. The 10 per cent diminution clause was also added to these policies.

Personal effects and moving picture films required specific insurance at a rate $1 per cent higher than the regular contents rate, which latter was the same as the building rate.

The Zone took a rate of $6 per cent with the 10 per cent diminution clause and 90 per cent co-insurance, both for buildings and contents. At the close of the Exposition the rate was increased to $10 per cent throughout.

In fire losses the Exposition was fortunate. On August 19, 1914, before the renewal of insurance for the Exposition season, a fire broke out at noon in the blue-printing room in the Service Building, which managed to gain some headway, owing to the fact that most of the employees were out of the building at the time. The adjusted damage in this case, chiefly from water, was approximately $1,200. The only other fire of consequence occurred in July 1915; under the floor of the Palace of Food Products at the west entrance. The damage in this case was assessed at a trifle over $600. Small blazes discovered from time to time were speedily extinguished by the Fire Department or by the persons that discovered them, before material damage was done.

Fires Suppressed

The Exposition's Fire Department responded to 44 alarms during the construction period; 62 within the grounds and four outside during the operating period; and probably not more than a dozen after Closing Day. It was called out for an overflowing fountain, for a hydroplane accident, a torpedo boat adrift, and for a vessel in distress off the Marina. In all cases other than these aqueous ones and some 17 false alarms, it was able to smother the fire before it had gained any dangerous headway.

Some of the causes of trouble assigned in the report of Chief Thomas R.

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CLOISTER PIERS, COURT OF ABUNDANCE

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Murphy of the San Francisco Fire Department may be of interest. There were alarms for fires arising from crossed electric wires, burning rubbish, careless smoking, a leaking automobile tank, burning electric poles, burning red fire, and papers, and overheating a gas stove, a gas explosion, a gasoline explosion, ignition of asphaltum, a burning motor, burning soot on the roof of the Machinery Palace, oily rags, combustion in sawdust, ignition of glue in a glue pot, ignition of some floor wax, a defective oven in the Palace of Food Products, an overheated tar kettle, hot ashes on a board walk, and somebody looking for a gas leak with a match and finding it.

Of the four alarms to which the Exposition Department responded outside the grounds, two were from the Presidio Military Reservation.

Casualty insurance presented two phases, one arising out of the obligation of the Exposition to maintain security for its millions of visitors, and the other out of the Workman's Compensation Act of California, which imposes on the industry that hires a man the hazard he runs in the pursuit of his work. That means a corresponding liability on the employer, which he may shift by insurance. All contractors and concessionaires were compelled to take out liability insurance.

Casualty Insurance

The negotiation of the contracts to cover both these kinds of risk, involving estimates of cost, and recommendation of proper coverage and carrier, was undertaken at Vice-President Hale's request, by Mr. Albert M. Bender and Mr. Robert D. Foster, again without charge to the Exposition, these gentlemen waiving their commissions and performing these very valuable and expert services just as they would have served their community in any other capacity.

This sort of insurance differs from fire insurance in that the whole risk is commonly assumed by one corporation instead of being split among several.

Rates for workmen's compensation insurance are based upon the occupation of the employees, and their pay. The published rates ordinarily applicable to Exposition employees ranged from 11 cents per $100 of payroll in the case of office clerical force, to $13.50 per $100 in such hazardous occupations as that of the firemen.

But in the case of an Exposition it is difficult to tell in advance just what ought to be charged. An advance estimate was made of the payroll to be expended in the various departments and an arrangement come at through the Casualty Underwriters' Association of California whereby a rate of 11 cents per $100 of payroll on all clerical office employees and an average rate of $1.50 per $100 of payroll on all other employees was recommended by that Association to its members. A number of companies offered insurance at

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that rate, the policy to be written without limit, covering the entire liability of the Exposition. Ultimately a policy was taken from the Maryland Casualty Company. The amount covered fluctuated from month to month with the payroll, as the size of the Exposition organization changed, and was of course affected by the taking over of certain concessions in distress, whereby their operatives become Exposition employees.

Ran with the Payroll

The Exposition was sharing in the receipts of its concessionaires. It even had its cashiers in front of their booths taking people's money for admittance to the various places of entertainment, after its own gatemen had taken their money for general admittance to the grounds. It had a liability for accidents to its visitors, on the Zone or elsewhere, very like that of a common carrier toward its passengers.

Exhibits were showing moving machinery. Concessions were operating a lot of moving amusement devices, some of them considered very hazardous. There were untried modes of intra-mural transportation, likely to be troublesome.

Then there was an overhanging calamity hazard—a possible great fire with loss of life, perhaps a falling grandstand, a racing automobile skidding through a crowd, an accident with fireworks, a falling aeroplane, an escape of wild animals, or a charging bull. It was very difficult to fix the rate to cover all these special and unusual risks. Published rates of the period for public liability insurance referred only to ordinary exhibitions and involved the charge of a percentage of the gate receipts for policies limited to $5,000 applicable to any one person and $10,000 applicable to any one accident including a number of persons.

The Committee sought a special form of policy with a limit of $50,000 applicable to any one accident and covering also the contingent liability of the Exposition in connection with all of the concessions. This required the consideration not only of that part of the Exposition directly in the control of its own employees but also of every concession, and particularly moving amusement devices and transportation facilities. In studying these hazards the Committee had the assistance of W. B. Wentz, local manager of the Maryland Casualty Company, who had had charge for that company of handling similar insurance for the Louisiana Purchase International Exposition, at St. Louis, and the Alaska Yukon Exposition at Seattle; and a policy was accepted from the Maryland Company at the limits recommended by the Committee, and of a form especially designed to cover both the direct and contingent public liability of the Exposition in all of its phases.

Public Liability

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The premium was based upon an estimate of the probable gate receipts and of the operations of the various concessions, and involved a net cost of $35,000 to the Exposition, all brokerage being waived by the Committee, Messrs. Bender and Foster.

To guard against excessive claims and injustice, an office was assigned the casualty company in the Service Building, where it maintained a claim department and made prompt settlement of every case as it arose. It should be said that in all its dealings with the public the company appeared to act in the utmost good faith throughout; preferring, and considering it better policy, to pay any reasonable claim than to fight claims indiscriminately. On its part, the Exposition gave the Company's claim agent access to the Emergency Hospital records, so that he should have definite knowledge of the nature and extent of the injuries people sustained; and the Exposition's fire prevention engineer, Mr. W. M. Johnson, was continually going about making inspections and cautioning participants of all classes against any hazardous devices or conditions he saw.

The limits for public liability, as recommended by the Committee, were found to be broad enough to take care of all cases that arose, so that the Exposition was relieved of risk. The number of accidents, in proportion to the number of admittances, compares favorably with those at previous expositions; and no calamity occurred—owing largely to the regulations and vigilance of the management, and the sound construction throughout.

No Calamity

For the post-Exposition period, a flat contract was made for twelve months, at a net cost to the Exposition of $21,875, to be proportionately rebated if the gates were closed to visitors sooner. This cost more in proportion than the public liability insurance for the operating period, but the hazard was assumed to be larger, inasmuch as the number of Guards was decreased, steam trains were being operated on the avenues to assist in the removal of exhibits, and dismantling and wrecking were going on.

The contraction of the force is reflected in the diminishing payroll insurance carried. For compensation insurance during the post-Exposition period the payroll was divided into three classes. One, the clerical office force, took the 11-cent rate, and the amount declined from $69,900 for December, 1915, to $36,258 for January, 1916, and $34,398 for February, 1916. A second class, "care, custody, and maintenance," which included Guards, gate keepers, and the like, took a rate of $1.50. Here the amounts declined from $50,921 for December, to $43,290 for January, and $40,385 for February. Employees engaged in packing and shipping, including the train

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crews, took a rate of $2.04 per hundred. These amounts declined from $15,980 for December, to $6,671 for January, and $3,193 for February.

By April of 1916, when wrecking was getting well started, it was necessary to cover the risk on employees engaged directly in the more hazardous operations. Riggers, powder men, those aloft, and those within what was called the falling wall zone, were considered to be in an extra hazardous position and the rate for them was far higher than for any other class of employee except fireman: $12.30. For men on the ground, outside these risks, the rate was $3. Adjustments were made on each payroll between representatives of the Exposition and the casualty company.

From this time on the payroll insurance gradually diminished to nothing. The total insurance for the post-Exposition period cost in premiums a little over $41,500.

In addition to casualty and fire insurance it was necessary to bond a number of the more important employees, to insure the prize trophies and the Vanderbilt Cup, and to take out burglary and highway robbery insurance, plate glass insurance, and furniture insurance.

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DINNER TO PRESIDENT MOORE, BY THE BOARD OF DIRECTORS

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CHAPTER XXXII

OPERATING-PERIOD ACCOUNTS

THE necessity for a modification of the accounts to meet conditions during the operating season became apparent in May, 1914, owing to the increasing revenue from concessions and admissions and from utilities. A temporary method of accounting for these matters had been developed, but it was at variance with the accounting principles laid down. The accounts for the operating period were organized by the Exposition's accountants, Lester Herrick & Herrick, on the principles determined upon for the construction period, with these subsidiary principles in view:

1st. That the accounting methods should be so arranged that all transactions should be the subject of immediate review or internal audit; so that any impropriety would require excessive collusion in order to be successful.

2d. That the methods concerning expenditure and disbursement should be so simple that the business would be carried on rapidly and without interference.

3d. That, owing to the character of the activities, the accounts should be placed upon a weekly basis as opposed to a monthly basis, with the provision that all transactions with regard to matters of revenue should be subject to complete daily settlement accounting.

Complete separation was maintained between the functions of accounting carried on by the Auditor's office and the handling of cash carried on by the Cashier's office, although the Cashier's office had gradually passed from the supervision of the Treasurer to that of the Comptroller.

General Methods

The activities of the Exposition were very diverse in character, involving not only the matter of Admissions and Concessions revenues, but also the operation of service departments, such as the Exposition Terminal Railway, Parcel Delivery Service, telephone, gas, electricity, merchandise stores, wholesaling, and retailing—in short they represented business in its infinite variety. Consequently to attempt to describe, even briefly, all of the accounting procedures would be impossible here,

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and it is intended only to indicate the methods used in connection with the various general subjects. To do even this it will be necessary to segregate the references in order to prevent confusion. Consequently, the various subjects will be dealt with under appropriate headings.

EXPENDITURES: All expenditures were generally classified as between materials and supplies, payrolls, and miscellaneous requirements. Purchases of materials and supplies were made through the Purchasing Department, which, during the operating period, was under the jurisdiction of the Comptroller. These arrangements were substantially the same as in the construction period, requiring that requisitions first pass to the Auditor's office for record against the appropriation, but features were inserted enabling the Purchasing Department to make preliminary arrangements for purchases in advance of receiving the approved requisition, so that the doing of business might be expedited as much as possible.

Special expenditures of a character not naturally going through the Purchasing Department were confirmed by the Comptroller as appeared proper in the various cases, and it was arranged so that in substantially all such expenditures the Comptroller had advance knowledge of the incurring of the liability. A large part of such expense was actually paid through the medium of a Comptroller's order which usually took the form of a requisition upon the Comptroller by a department head for emergency disbursement and which upon approval was payable immediately by the Cashier.

All invoices and other evidences of expenditure were vouchered in the Auditor's office in such manner that the disbursement check, a remittance advice to the creditor, and a record of the distribution among accounts, were all made at the same writing. Vouchers were registered as to classified totals, all detailed accounting entries being made directly from the vouchers themselves. Approvals on vouchers were reduced to just those that were actually effective, and all duplication of signatures was eliminated.

With the exception of a few monthly salaries paid by regular check, all service expenditures were recorded upon department payrolls made up weekly. These were so arranged that the pay check and the payroll were prepared at the same time. The pay checks were issued directly by departments, while the rolls themselves proceeded to the office of the Paymaster who completely audited them against approved employment cards before approving the pay checks. Pay checks were payable in cash by the Cashier after approval by the Paymaster. Provision was made for immediate payment of discharged employees. The payroll system embraced a number of these features. Under it considerably

Check and Payroll

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over 100,000 pay checks were handled and the entire system worked with particular satisfaction and efficiency.

REVENUE: Information concerning all revenues of the Exposition reached the Auditor's office either through the medium of daily department reports or through forms of bills collectable prepared by the departments. The department reports received by the Auditor's office embraced the following: From the Cashier's office, the Department of Admissions, Department of Concessions, Division of Works, Traffic Department, each store of the Stores Department, Department of Official Coins and Medals, Section of Arts and Crafts, Department of Fine Arts, Hotel Bureau, Permit Bureau (of Department of Admissions), Department of Live Stock.

These reports were brought under daily audit within the Auditor's office and by various means the integrity of the revenue information disclosed by each was confirmed daily to the highest possible degree. All reports took entry through a register developing classified totals, while the totals were taken up directly from the reports themselves.

SETTLEMENT WITH CONCESSIONAIRES: The Exposition had promulgated the principle that the gross receipts of all concessionaires upon a percentage basis would be collected by the Exposition; which would deduct therefrom its percentage and other amounts due it before making settlement with the concessionaire. This principle was carried out, excepting in certain activities the nature of which made it impractical. The gross income of concessionaires was shown in detail by the daily report of the Department of Concessions and was taken up in the Auditor's office upon statement forms. These forms were completed weekly, the concessionaires being charged thereon for the Exposition percentage and other amounts due the Exposition, and a Concessionaire's Settlement Order was thereupon drawn for the balance due. This order was accompanied by the original of the statement form.

Concessions Accounts

Complete settlements with concessionaires were made but weekly, the orders being issued on Tuesday, covering the business up to Sunday at midnight. Wherever a concessionaire required money on account, however, he was furnished upon request with a settlement order for the approximate amount of the balance due up to midnight of the previous day.

PROPERTY ACCOUNTING: The provisions made in the construction period to cover property accountability were extended and simplified in the revision of the accounts. They embraced receipt forms, which were required by the Auditor's office for all equipment going into the charge of any executive, forms to record the transfer of equipment between offices, and forms for the release of accountability for equipment destroyed or sold.

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MISCELLANEOUS SUBJECTS: It was the original intention that all collections of utility and other collectable bills should be under the direction of the general Cashier, but it became advisable to relieve the general Cashier from this responsibility. Consequently a Collection Bureau was established under the direction of the Auditor, closely connected with the Cashier's office so as to avoid delay, and the arrangements were such as to maintain the principle of separation between Auditor and Cashier.

Refunding Deposits

The Exposition received numerous deposits of various characters, such as contractors guarantees, permit deposits, concessionaires deposits. Inasmuch as these funds did not actually belong to the Exposition, it was arranged to permit the repayment of them without delay. Repayments were effected through the medium of repayment orders signed by various department heads and approved by the Auditor, which prevented duplication.

The general accounts of the Auditor's office were closed weekly, as of Sunday night, and a brief report of income and expenditures was prepared, being completed upon the following Wednesday morning. At four-weekly intervals a complete report was prepared going into all details of revenue, expenses, and appropriations.

DEVELOPMENT OF DEPARTMENT REPORTS: The Cashier's report embraced the amounts received from the various departments, the disbursements segregated as to classes of document, and the composition of the balance remaining.

The Cashier's office was established substantially as a bank, all transactions being consummated by separate paying and receiving tellers. At certain hours of the day three paying tellers and ten to fifteen receiving tellers were required. The regular receiving tellers were provided with a special form of cash register, which segregated the collections and printed the amounts received upon the receipt issued and also upon a stub retained as a collection record.

Each teller made settlement with the general cashier at the end of his shift, turning over all documents showing his disbursements or receipts; and these documents were used in the preparation of the daily Cashier's report. The Cashier's office was open from seven in the morning until midnight, and the complete report of each day's business was in the Auditor's office at 8:30 on the following morning.

The Cashier's office was provided with sorting machines and counting machines for handling the moneys received through turnstile cans, and with wrapping machines for wrapping all silver.

The daily report of the Department of Admissions embraced two sec-

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A NIGHT VISTA

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tions: first, that concerned with the sale of tickets; and, second, that embracing the actual admissions through the turnstiles. The report concerning the sale of tickets was based upon reports received from each ticket custodian or sales agent. The report covering actual admissions exhibited the number of admissions as shown by each turnstile or vehicle gate, segregated as to cash and token admissions, the token admissions embracing tickets and permits.

Admissions Accounts

The variation between the cash admissions at each gate, and the cash therefrom reported by the Cashier's office, was extended in the accounts. Where such variations represented shortages they were charged against the gatemen, and such charges could be remitted only with the approval of the Chief of Admissions Department. The Admission report was based upon the turnstile readings supplemented by vehicle gate reports.

The daily report of the Department of Concessions embraced the gross business of each percentage concession and was based upon reports of the operations of each concession. These individual concession reports were usually based upon cash register readings or serially numbered roll ticket sales, but in other cases they were based upon special methods designed to meet particular conditions.

The daily report from the Division of Works was based upon utility bills and the reports of telephone pay stations. The Division of Works maintained complete customers' accounts concerned with the consumption of electricity, gas, and water, and from these accounts the bills were prepared. All bills accompanied the daily report and were collected through the Cashier's office or Bureau of Collections. The report of each day merely covered the bills prepared on that day, and the periods covered by the bills varied from a month down, according to conditions involved.

Service Accounts

The report from the Traffic Department was based upon its records of freight bills, special delivery service charges, storage charges, and the like, and also upon its record of collections. The Traffic Department constituted the single exception from the general rule that all collections should be made through the Cashier's office, as conditions existed in connection with the interchange of freight with other roads that made it necessary for this Department to handle its own collections.

The daily report from each store of the Stores Department was based upon sales sheets which had to be issued in connection with each sale or department issue of material. The reports from the other departments were all based upon original departmental records of the individual transactions concerned with the department's activities.

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In order that the offices might become familiar with the various accounting requirements a complete operative system was put into effect in October, 1914, or four months in advance of Opening Day. This preparation was of great value in the prevention of any extensive confusion resulting from the enormous increase in transactions when the Exposition opened. In spite of this, the great number of unforeseen conditions that arose did produce a certain amount of confusion, but nothing in comparison with the confusion which at other expositions has followed the opening.

Advance Operation

In the summer of 1914, the Comptroller's Department, which at that time included the offices of the Auditor, Paymaster, Cashier, Employment Bureau, Purchasing Department, Stores Department, and the Filing and Mailing Departments, comprised sixty-five persons.

By April 1, 1915, the payroll in this department had expanded to 144, including the Department of Souvenir Coins and Medals which had been added to the Comptroller's field of supervision.

The Comptroller had two assistants, W. J. Pearce, and E. H. Hooper who had previously been Auditor, while W. A. Grimmell occupied the position of Auditor during the operating period. The force of the Auditor's office consisted of approximately 39 persons. The Cashier's office was under the immediate direction of E. J. Wagner, while the Paymaster's Department was under Rodman Robeson. In the post-Exposition period the responsible post of Acting Auditor was filled by Frank L. Darrell. The efficiency of the whole Comptroller's Department was very high, and its records and accounts were, practically speaking, always in order.

The tables immediately following will present the main items of cost of construction and operation, and of receipts and disbursements of the Exposition down to December 31, 1919.

Of $50,000 entered against the Mortgage Note Loan item in these tables, $10,000 represented notes made before the Exposition opened, to guarantee freight on some foreign exhibits, which was paid in the operating period, and so was treated in the accounts as a transaction of that period. The other $40,000 represented a similar arrangement, all of which was executed in the operating period. The total actually secured by the mortgage note amounted on Opening Day to $1,072,500, as stated in the text.

Some figures given in the early part of the narrative, and complete when that was printed, have since undergone slight alteration, owing to later development of the accounts through delayed collections and settlements. *For final figures of receipts and disbursements consult the following tables only.*

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CONDENSED GENERAL STATEMENT OF RECEIPTS AND DISBURSEMENTS TO DECEMBER 31, 1919

	Pre-Expo. Period	Exposition Period	Post-Expo. Period	Total
RECEIPTS				
Public Subscriptions.....	$5,716,320.00			$5,716,320.00
Total..... $6,136,320.00				
Less estimated to be uncollectable 420,000.00				
State of California Subscription.....	4,941,556.26			4,941,556.26
Municipal Aid, City and County of San Francisco..	5,000,000.00			5,000,000.00
Mortgage Note Loan.....	1,062,500.00	$ 50,000.00		1,112,500.00
Admission Revenue.....	223,744.25	4,715,523.05	$ 44,343.30	4,983,610.60
Concession Revenue.....	23,140.39	1,572,082.24	4,137.64	1,599,360.27
Miscellaneous Income and Expense Abatements.....	1,160,120.36	1,541,797.22	182,339.59	2,884,257.17
Salvage.....	6,508.03	15,256.28	918,696.53	940,460.84
Total Receipts.....	$18,133,889.29	$7,894,658.79	$1,149,517.06	$27,178,065.14
DISBURSEMENTS				
Exposition Development and Construction..... Statements A and D	*$18,452,616.72			$18,452,616.72
Exposition Operation and Maintenance..... Statements B and D		$4,979,307.11		4,979,307.11
Mortgage Note Loan.....	1,062,500.00	50,000.00		1,112,500.00
Closure and Site Restoration Expense..... Statements C and D			$1,321,490.55	$1,321,490.55
Total Disbursements.....	$19,515,116.72	$5,029,307.11	$1,321,490.55	$25,865,914.38
BALANCES				
Pre-Exposition Deficit.....	*$1,381,227.43			
Exposition Operating Surplus.		$2,865,351.68		
Net Closing Cost over Salvage			$171,973.49	
Final Surplus.....				*$1,312,150.76

* These amounts are shown after the inclusion of the cost of the Exposition Auditorium and organ of $1,089,780.22. The Exposition Auditorium is a permanent structure situated in the Civic Center of San Francisco, and constitutes an exposition memorial such as is usually provided out of Final Surplus. For comparative purposes, therefore, the Final Surplus should be considered as follows:

Total Surplus.....	$2,401,930.98
Employed for construction of Exposition Auditorium.....	1,089,780.22
Balance of Total Surplus as above.....	$1,312,150.76

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STATEMENT "A"

PRE-EXPOSITION RECEIPTS AND DISBURSEMENTS

Developing the pre-Exposition deficit, or excess of development and construction cost, including cost of permanent Exposition Auditorium, over the income from subscriptions, contributions, and miscellaneous abatements and revenues, as determined to the date of December 31, 1919

RECEIPTS			
PUBLIC SUBSCRIPTIONS		$5,716,320.00	
Total	$6,136,320.00		
Less estimated to be uncollectable	420,000.00		
STATE OF CALIFORNIA SUBSCRIPTION		4,941,556.26	
MUNICIPAL AID, CITY AND COUNTY OF SAN FRANCISCO		5,000,000.00	
MORTGAGE NOTE LOAN		1,062,500.00	
ABATEMENTS AND REVENUES		1,413,513.03	
Miscellaneous Income and Abatements—Departmental—Statement D	888,805.16		
Miscellaneous Income and Abatements—General	271,315.20		
Pre-Exposition Admission Revenue	223,744.25		
Pre-Exposition Concession Revenue	23,140.39		
Pre-Exposition Salvage	6,508.03		$18,133,889.29
DISBURSEMENTS			
EXPOSITION DEVELOPMENT AND CONSTRUCTION. Statement D		$18,452,616.72	
Construction and Property Acquisition	$14,847,607.04		
Exploitation	705,666.54		
Operation and Maintenance of Buildings, Grounds, and Utilities	488,687.45		
Exhibits	484,846.45		
Administration	388,703.24		
Expenses Preliminary to Congressional Approval	377,515.01		
Foreign Office and Commission	251,431.80		
Exposition Guards	162,337.09		
Concessions and Admissions	135,712.51		
Traffic Department	101,525.25		
Conventions and Societies	94,253.36		
Other pre-Exposition Expenses	414,330.98		
PAYMENT MORTGAGE NOTE LOAN		1,062,500.00	19,515,116.72
PRE-EXPOSITION DEFICIT			*$1,381,227.43

*After cost of Permanent Exposition Auditorium, of $1,089,780.22.

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STATEMENT "B"

EXPOSITION PERIOD RECEIPTS AND DISBURSEMENTS

Covering transactions during and resulting from operations from February 20, 1915, to December 4, 1915; developing operating surplus as determined to the date of December 31, 1919

RECEIPTS			
ADMISSION REVENUE		$4,715,523.05	
General	$4,219,973.05		
Season Book Sales	495,550.00		
CONCESSION REVENUE		1,572,082.24	
Gross	1,830,331.67		
Less Concession Losses	258,249.43		
MISCELLANEOUS INCOME AND EXPENSE ABATEMENTS		1,557,053.50	
Miscellaneous Income and Abatements—Departmental—Statement D	1,517,881.97		
Miscellaneous Income and Abatements—General	23,915.25		
Exposition Period Salvage	15,256.28		
MORTGAGE NOTE LOAN		50,000.00	$7,894,658.79
DISBURSEMENTS			
EXPOSITION OPERATION AND MAINTENANCE Statement D		$4,979,307.11	
Operation and Maintenance of Buildings, Grounds, and Utilities	$1,507,017.03		
Music	623,800.73		
Concessions and Admissions	502,149.37		
Special Events and Attractions	484,069.56		
Exhibits	482,300.01		
Administration	360,660.32		
Exposition Guards	313,576.82		
Exploitation	146,814.26		
Insurance	109,397.39		
Conventions and Societies	86,432.44		
Traffic Department	84,287.01		
Other Exposition Period Expenses	278,802.17		
PAYMENT MORTGAGE NOTE LOAN		50,000.00	5,029,307.11
OPERATING SURPLUS			$2,865,351.68

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STATEMENT "C"

POST-EXPOSITION RECEIPTS AND DISBURSEMENTS

Developing the net cost of closing, wrecking, and restoration of site, to date of December 31, 1919

RECEIPTS			
SALVAGE		$918,696.53	
ABATEMENTS AND REVENUES		230,820.53	
Miscellaneous Income and Abatements—Departmental—Statement D	$89,789.30		
Miscellaneous Income and Abatements—General	92,550.29		
Post-Exposition Admission Revenue	44,343.30		
Post-Exposition Concession Revenue	4,137.64		$1,149,517.06
DISBURSEMENTS			
CLOSURE AND SITE RESTORATION—Statement D			1,321,490.55
Wrecking and Site Restoration	$461,574.07		
Administration	278,026.88		
Operation and Maintenance of Buildings, Grounds, and Utilities	214,854.43		
Exhibits	97,963.33		
Exposition Guards	79,352.66		
Traffic Department	73,343.31		
Insurance	41,572.26		
Other post-Exposition Expenses	74,803.61		
NET CLOSING COST			$171,973.49

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STATEMENT "D," Sheet 1

ANALYSIS OF GENERAL DISBURSEMENTS AND DEPARTMENTAL INCOME AND ABATEMENTS, PRE-EXPOSITION PERIOD

Organization to February 19, 1915

	Gross Expenditure	Expense Abatements	Net Expenditure
GENERAL ADMINISTRATION:			
President and Secretary	$ 60,056.11		*$ 60,056.11
Director-in-Chief and International Award System	†		
History	3,379.96		3,379.96
Comptroller	221,864.42		221,864.42
Legal Department	84,091.84		84,091.84
Service Building Operation and Maintenance	19,310.91		19,310.91
Total	388,703.24		388,703.24
DIVISION OF EXHIBITS	484,846.45	$ 837.90	484,008.55
DIVISION OF EXPLOITATION	705,666.54		705,666.54
DIVISION OF CONCESSIONS AND ADMISSIONS	135,712.51	7,391.17	128,321.34
DIVISION OF WORKS:			
General Construction	12,052,191.80	16,075.43	12,036,116.37
Exposition Auditorium	1,299,804.22	210,024.00	1,089,780.22
California Building	458,525.41	346,317.21	112,208.20
Real Estate Purchase and Rentals	1,037,085.61		1,037,085.61
Total Construction and Property Acquisition	14,847,607.04	572,416.64	14,275,190.40
Operation and Maintenance of Buildings, Grounds, and Utilities	488,687.45	187,721.75	300,965.70
Exposition Guards	162,337.09	36.55	162,300.54
Emergency Hospital	9,381.40		9,381.40
Total	15,508,012.98	760,174.94	14,747,838.04
TRAFFIC DEPARTMENT	101,525.25	65,216.42	36,308.83
FOREIGN OFFICE AND COMMISSIONS	251,431.80		251,431.80
SPECIAL EVENTS AND ATTRACTIONS	55,224.20	28,084.35	27,139.85
MISCELLANEOUS DEPARTMENTS AND OFFICES:			
Music	18,687.43		18,687.43
Conventions and Societies	94,253.36	6,708.04	87,545.32
Reception	43,338.35		43,338.35
Eastern Offices	24,215.98		24,215.98
Special Activities: Athletic, Aeronautic, Yachting, etc.	64,525.28	20,392.34	44,132.94
Total	245,020.40	27,100.38	217,920.02
SPECIAL AND MISCELLANEOUS EXPENSES:			
Discount and Expense on Sale of Contributed Municipal Bonds	88,446.26		88,446.26
Insurance	23,610.62		23,610.62
Interest on Mortgage Notes	13,638.06		13,638.06
Washington Legislation	13,505.45		13,505.45
Special Activities and Miscellaneous Expenses	59,757.95		59,757.95
Total	198,958.34		198,958.34
EXPENSES PRELIMINARY TO CONGRESSIONAL APPROVAL:			
National Campaign to secure Congressional Approval	190,257.42		190,257.42
Exploitation and Publicity	124,633.77		124,633.77
Office Expenses	62,623.82		62,623.82
Total	377,515.01		377,515.01
GRAND TOTALS	$18,452,616.72	$888,805.16	$17,563,811.56

* See note, Statement "D," Sheet 4.

†Pre-Exposition expense Director-in-Chief of Foreign and Domestic Participation divided between Exhibits and Exploitation.

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STATEMENT "D," Sheet 2

ANALYSIS OF GENERAL DISBURSEMENTS AND DEPARTMENTAL INCOME AND ABATEMENTS, EXPOSITION PERIOD

February 20, 1915, to December 4, 1915

	Gross Expenditure	Expense Abatements	Net Expenditure
GENERAL ADMINISTRATION:			
President and Secretary	$ 40,742.94	$ 5,206.85	$ 35,536.09
Director-in-Chief and International Award System	133,827.02		133,827.02
History	3,607.82		3,607.82
Comptroller	156,160.10		156,160.10
Legal Department	26,322.44		26,322.44
Total	360,660.32	5,206.85	355,453.47
DIVISION OF EXHIBITS	482,300.01	189,640.62	292,659.39
DIVISION OF EXPLOITATION	146,814.26		146,814.26
DIVISION OF CONCESSIONS AND ADMISSIONS	502,149.37	228,112.63	274,036.74
DIVISION OF WORKS:			
Operation and Maintenance of Buildings, Grounds, and Utilities	1,507,017.03	680,858.89	826,158.14
Exposition Guards	313,576.82	27.95	313,548.87
Emergency Hospital	11,782.53		11,782.53
Total	1,832,376.38	680,886.84	1,151,489.54
TRAFFIC DEPARTMENT	84,287.01	76,357.38	7,929.63
FOREIGN OFFICE AND COMMISSIONS	16,531.88		16,531.88
SPECIAL EVENTS AND ATTRACTIONS	484,069.56	93,709.94	390,359.62
MISCELLANEOUS DEPARTMENTS AND OFFICES:			
Music	623,800.73	161,741.82	462,058.91
Conventions and Societies	86,432.44	9,401.08	77,031.36
Reception	46,189.48		46,189.48
Official Coins and Medals		57,426.25	*57,426.25
Eastern Offices	5,453.27		5,453.27
Special Activities: Athletic, Aeronautic, Yachting, etc.	91,710.25	15,398.56	76,311.69
Total	853,586.17	243,967.71	609,618.46
SPECIAL AND MISCELLANEOUS EXPENSES:			
Insurance	109,397.39		109,397.39
Interest on Mortgage Notes	28,924.64		28,924.64
Special Activities and Miscellaneous Expenses	78,210.12		78,210.12
Total	216,532.15		216,532.15
GRAND TOTALS	$4,979,307.11	$1,517,881.97	$3,461,425.14

*Net profit from operation of the Official Coins and Medals Department for the Exposition period.

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STATEMENT "D," Sheet 3

ANALYSIS OF GENERAL DISBURSEMENTS AND DEPARTMENTAL INCOME AND ABATEMENTS, POST-EXPOSITION PERIOD

December 5, 1915, to December 31, 1919

	Gross Expenditure	Expense Abatements	Net Expenditure
GENERAL ADMINISTRATION:			
President and Secretary	$ 50,927.75	$ 305.65	$ 50,622.10
History	69,063.10		69,063.10
Comptroller	79,207.86		79,207.86
Legal Department	78,828.17		78,828.17
Total	278,026.88	305.65	277,721.23
DIVISION OF EXHIBITS	97,963.33	5,082.79	92,880.54
DIVISION OF CONCESSIONS AND ADMISSIONS	21,265.58	478.18	20,787.40
DIVISION OF WORKS:			
Exposition Auditorium	22,930.50		22,930.50
Total Construction and Property Acquisition	22,930.50		22,930.50
Operation and Maintenance of Buildings, Grounds, and Utilities	214,854.43	20,823.94	194,030.49
Exposition Guards	79,352.66		79,352.66
Emergency Hospital	8,566.80		8,566.80
Wrecking and Site Restoration	461,574.07		461,574.07
Total	787,278.46	20,823.94	766,454.52
TRAFFIC DEPARTMENT	73,343.31	54,969.90	18,373.41
SPECIAL EVENTS AND ATTRACTIONS	13,175.43		13,175.43
MISCELLANEOUS DEPARTMENTS AND OFFICES:			
Conventions and Societies	4,107.19		4,107.19
Official Coins and Medals		8,128.84	*8,128.84
Total	4,107.19	8,128.84	4,021.65
SPECIAL AND MISCELLANEOUS EXPENSES:			
Insurance	41,572.26		41,572.26
Special Activities and Miscellaneous Expenses	4,758.11		4,758.11
Total	46,330.37		46,330.37
GRAND TOTALS	$1,321,490.55	$89,789.30	$1,231,701.25

*Net profit from operation of the Official Coins and Medals Department for the post-Exposition period.

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STATEMENT "D," Sheet 4

ANALYSIS OF GENERAL DISBURSEMENTS AND DEPARTMENTAL INCOME AND ABATEMENTS, AGGREGATE OF THREE PERIODS

	Gross Expenditure	Expense Abatements	Net Expenditure
GENERAL ADMINISTRATION:			
President and Secretary	$ 151,726.80	$ 5,512.50	*$ 146,214.30
Director-in-Chief and International Awards	133,827.02		133,827.02
History	76,050.88		76,050.88
Comptroller	457,232.38		457,232.38
Legal Department	189,242.45		189,242.45
Service Building Operation and Maintenance	19,310.91		19,310.91
Total	1,027,390.44	5,512.50	1,021,877.94
DIVISION OF EXHIBITS	1,065,109.79	195,561.31	869,548.48
DIVISION OF EXPLOITATION	852,480.80		852,480.80
DIVISION OF CONCESSIONS AND ADMISSIONS	659,127.46	235,981.98	423,145.48
DIVISION OF WORKS:			
General Construction	12,052,191.80	16,075.43	12,036,116.37
Exposition Auditorium	1,322,734.72	210,024.00	1,112,710.72
California Building	458,525.41	346,317.21	112,208.20
Real Estate Purchase and Rentals	1,037,085.61		1,037,085.61
Total Construction and Property Acquisition	14,870,537.54	572,416.64	14,298,120.90
Operation and Maintenance of Buildings, Grounds, and Utilities	2,210,558.91	889,404.58	1,321,154.33
Exposition Guards	555,266.57	64.50	555,202.07
Emergency Hospital	29,730.73		29,730.73
Wrecking and Site Restoration	461,574.07		461,574.07
Total	18,127,667.82	1,461,885.72	16,665,782.10
TRAFFIC DEPARTMENT	259,155.57	196,543.70	62,611.87
FOREIGN OFFICE AND COMMISSIONS	267,963.68		267,963.68
SPECIAL EVENTS AND ATTRACTIONS	552,469.19	121,794.29	430,674.90
MISCELLANEOUS DEPARTMENTS AND OFFICES:			
Music	642,488.16	161,741.82	480,746.34
Conventions and Societies	184,792.99	16,109.12	168,683.87
Reception	89,527.83		89,527.83
Official Coins and Medals		65,555.09	†65,555.09
Eastern Offices	29,669.25		29,669.25
Special Activities: Athletic, Aeronautic, Yachting, etc.	156,235.53	35,790.90	120,444.63
Total	1,102,713.76	279,196.93	823,516.83
SPECIAL AND MISCELLANEOUS EXPENSES:			
Discount and Expense on Sale of Contributed Municipal Bonds	88,446.26		88,446.26
Insurance	174,580.27		174,580.27
Interest on Mortgage Notes	42,562.70		42,562.70
Washington Legislation	13,505.45		13,505.45
Special Activities and Miscellaneous Expenses	142,726.18		142,726.18
Total	461,820.86		461,820.86
EXPENSES PRELIMINARY TO CONGRESSIONAL APPROVAL:			
National Campaign to secure Congressional Approval	190,257.42		190,257.42
Exploitation and Publicity	124,633.77		124,633.77
Office Expenses	62,623.82		62,623.82
Total	377,515.01		377,515.01
GRAND TOTALS	$24,753,414.38	$2,496,476.43	$22,256,937.95

*No salary paid to President. All President's travel, personal entertainment, and other expenses defrayed by him.

†Net profit from the total operation of the Official Coins and Medals Department, both for the Exposition and post-Exposition periods.

Tables compiled under supervision of Lester Herrick & Herrick, Certified Public Accountants, by Frank L. Darrell, Acting Auditor of the Exposition.

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CHAPTER XXXIII

FOR THE FIRST TIME

MANY things in the arts and in exposition development date from the Panama-Pacific International Exposition, and no small part of the significance that attaches to important origins inheres in its history. To say nothing of the merit of thousands of inventions shown here for the first time, it signalized innovations of value in exposition practice.

This was the first Exposition to have separate Departments of Sculpture, of Color, and of Illumination; the first to use indirect lighting instead of outlining the buildings with rows of lamps; and the first to handle the color lighting, landscape gardening, mural paintings, and statuary as the interdependent supports of one inclusive architectural scheme; to which is largely due the fact that it was the high-water mark of art in America.

This was the first Exposition ever opened by wireless telegraphy.

It was the first at which transcontinental telephony was demonstrated; the first transcontinental telephone conversation took place between President Wilson and President Moore of the Exposition, during the Exposition year. It was the first to witness transcontinental wireless telephony, which took place between Arlington Heights and Mare Island Navy Yard (and was heard at Honolulu), in September of the Exposition year.

It was the first to exhibit a million-volt electric transformer.

The large electric traction locomotive in the Palace of Transportation was the first of that kind ever exhibited at an international exposition in this country.

The first aeroplane to cross the Isthmus of Panama was exhibited in the Palace of Transportation.

This was the first international Exposition at which the public could enjoy aeroplane rides.

It was the first to show an automobile assembling plant in operation.

It was the first Exposition to hold an insurance congress, and thus give recognition to insurance as one of the arts, and a vital factor in economics and social service.

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It was the first to have 928 conferences, congresses, and conventions.

It was the first to hold an International Press Congress, the first to have a Congress on Thrift, the first to have a conference of text-book authors. It brought the meeting of the American Association for the Advancement of Science to the shores of the Pacific for the first time.

It was the first Exposition to hold special days in honor of the most eminent citizens of various States.

It was the first to bestow memorial plaques in recognition of service.

It was the first to base a scientific estimate of attendance on the population of the host city.

It was the first to offer the public a ten-dollar season book; and the first to remain open nine and a half months.

It was the first to register in the office of the Chief of Admissions every entrant as he came in the gate.

It was the first to submit a complete daily statement of its concessions and admissions revenues to the President by nine o'clock every morning for the preceding day.

It was the first to collect the entire gross takings of its concessionaires and deduct charges and percentages before paying over the balance.

It was the first Exposition that ever made a practical and systematic effort to protect its visitors from excessive hotel charges.

It was the first Exposition to have a sculptural column as a dominant note of its architecture.

It was the first to show steam pyrotechnics; in the production of which a battery of 48 searchlights threw colored beams on plumes of steam, on the smoke of bombs, and on the fog and clouds. It was the first time such effects as these were introduced into pyrotechnics.

It was the first Exposition to have a comprehensive numismatic exhibit. The first fifty-dollar gold coin issued under authority of the United States was struck by the San Francisco Mint for this Exposition.

It was the first International Exposition that ever had such a building as the California Host Building, erected by the host State. It was the first to have such a thing as the President's Official Entertainment Dining Room for the entertainment of foreign and state commissioners and other distinguished guests.

It was the first at which the ceremonial of planting trees was employed to emphasize and commemorate great occasions.

It was the first to hold site selection and site dedication ceremonies, the first to present deeds to commissioners for the sites of foreign pavilions and state buildings.

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CLOSING DAY, IN THE COURT OF THE UNIVERSE

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It was the first to build an Enlisted Men's Club for the benefit of the enlisted men of the Service.

It was the first Exposition to organize moral protection on so large and effective a system that no complaints of lost girls were heard in connection with it.

It was the first to exhibit a periscope; at least in this country.

It was the first to use moving pictures in its exploitation.

This was the first time that exhibitors in any considerable number had lecture halls as adjuncts to their exhibits. It was the first Exposition that had moving picture theaters for purposes of exhibition and demonstration.

It was the first Exposition that had schools, and it had four: its own for the instruction of concessions cashiers; the Montessori school for small children; the Standard Commercial School; the Palmer School of Penmanship.

It was the first to have trackless street cars (the "Fadgl" trains) operating on its roadways.

It was the first Exposition at which the Government exhibited in the Department of Mines and Metallurgy.

It was the first to have demonstrations of mine rescue methods.

It brought the first warships through the Panama Canal. It brought the first practice cruise of Annapolis midshipmen into the Pacific.

It was the first Exposition to select the members of its Guard from honorably discharged United States soldiers, sailors, and marines.

It was the first Exposition at which a corn picker and husker was exhibited and the first at which a corn binder, ensilage cutter, and elevator for filling silos was shown. It was the first to show a "Caterpillar" engine and a self-propelled "Caterpillar" harvester.

It was the first Exposition to have live stock barns that were especially built for exhibition instead of mere shelter.

It was the first to have established view herds.

It was the first to have horse racing, with stakes open to the world.

It was the first to have a 440-yard straightaway cinder path.

It was the first Exposition in this country to exhibit modern silk filature machinery, and the machinery shown was the first of this sort imported into America.

It was the first at which the speed kings of the automobile exhibited their skill and daring in contests within the grounds.

The counter-balanced "Aeroscope" was new at this Exposition. So was the traveling platform with the phonograph lectures in the Panama Canal concession.

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This was the first Exposition in the development of which transportation by water entered importantly into the work of assembling the exhibits.

It was the first Exposition at which the United States Government gave a ball; and the ball (to the Foreign Commissioners in honor of Vice-President Marshall, in the California Building on March 24, the evening of the Exposition's Dedication Day) was the first ball the Government ever gave.

It was the first Exposition that ever helped what it celebrated; for, on the testimony of General Goethals, it was, in its building, a pace-maker for the construction of the Panama Canal.

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CHAPTER XXXIV

THE LAST DAY AND NIGHT

"I have always held that it is unwise to ask of any perfect thing duration as well as existence. Supreme happiness, if it could be continued indefinitely, would in time, without losing its essence, lose its supremacy, which exists only by contrast."—*Arthur Symons.*

IT had rained heavily all the day before, but the morning of December 4, 1915, broke as fair as any day in midsummer, and by eleven o'clock the sun was burning in a cloudless California sky.

Within the shadow of the Tower of Jewels and on one of the lower terraces of the Court of the Universe a stand had been erected on which sat the Directors of the Exposition, Commissioners of foreign governments and domestic States, and representatives of the Army and Navy, of the State of California, and of the city of San Francisco. A marine guard of honor formed two lines down the broad stairs. To right and left buglers were stationed. From the Arches of the Rising and of the Setting Sun, the colossal Nations of the East and Nations of the West looked down upon a multitude that could not have numbered less than 150,000 people—not a sad audience, but a satisfied and a gratified one, for the work to which the city had set its hand had been completed. And completed to the general satisfaction. No obligation had been slighted, nothing that could contribute importantly to the value and beauty of the result had been left undone.

The Multitude

There was neither financial nor moral debt, but a vast gratification to be remembered, a permanent reënforcement of community pride built securely into the traditions of the city and the State. The Governor of California had commended the work, and the President of the United States stood ready that day to toast its great serviceability and its final success the world around.

The Philippine Constabulary band played. President Moore stepped forward and introduced the business of the day. "Our task is done," he said. "The end of six years' earnest endeavor has come. We shall begin these ceremonies with the reading by Mr. Arthur Arlett, member of the

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California State Commission, of George Sterling's poem, written for this occasion." Mr. Arlett read:

THE BUILDERS

The year grows old, but Progress has no age:
Her flags go forward to increasing light;
Behind her lies the night;
It is a ceaseless war her soldiers wage,
And on her great and ever-widening sky,
"Onward!" is still the truceless battle-cry.

The Future is our kingdom, and although
Our hands unbuild the city they have built,
Yet here no blood is spilt
Nor swords uplifted for a nation's woe.
And though the columns and the temples pass,
Let none regret; let no man cry "Alas!"

We do but cross a threshold into day.
Beauty we leave behind,
A deeper beauty on our path to find
And higher glories to illume the way.
The door we close behind us is the Past:
Our sons shall find a fairer door at last.

A world reborn awaits us. Years to come
Shall know its grace and good,
When wars shall end in endless brotherhood,
And birds shall build in cannon long since dumb.
Men shall have peace, tho then no man may know
Who built this sunset city long ago.

Wherefore, be glad! Sublimer walls shall rise,
Which these do but foretell.
Be glad indeed! for we have builded well,
And set a star upon our western skies
Whose fire shall greaten on a land made free,
Till all that land be bright from sea to sea!

On the stroke of noon the President of the Exposition read the toast of President Wilson, having explained that it would be given the world around at that moment: three o'clock at New York, three forty-three at Buenos Aires, eight o'clock in the evening at Paris, nine o'clock at Stockholm, five o'clock Sunday morning at Tokio, six o'clock in Melbourne. "I call your

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THE FINAL CEREMONIES

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attention to it that you may see that the work that has been done by the devoted Foreign and State Commissioners has produced a bond the like of which, we believe, has not existed before." The toast was:

"*The Panama-Pacific International Exposition:*

"*Which in its conception and successful accomplishment gave striking evidence of the practical genius and artistic taste of America;*

"*Which in it unusual and interesting exhibits afforded impressive illustration of the development of the arts of peace; and*

"*Which in its motive and object was eloquent of the new spirit which is to unite East and West and make all the world partners in the common enterprises of progress and humanity.*

"*Woodrow Wilson, President of the United States.*"

Then came a bit of allegory, composed by Lawrence W. Harris.

A Boy Scout was summoned to carry the Exposition's message to the school children of the world. President Moore put a silk ribbon with a decoration about his neck, and he departed between the ranks of sailors. A Journalist was summoned, decorated, and sent forth. "To Journalism," said the President, "has been assigned the great task of carrying the meaning of the Exposition to all men. Go, good friend, there is work for you to do." To a Toiler, with his sledge, the Exposition's President said: "Tell the toilers of the world, our brethren, that they have contributed nobly to man's betterment and the world's advancement." The Cowboy, the Surveyor, the Soldier, and the Sailor were commissioned to carry the message into the unsettled places of the earth, to all far shores, and throughout the seven seas.

Message Goes Forth

Finally three Exposition Guards were summoned. The Chairman of the Association of Foreign Commissioners decorated one, the head of the Association of the Commissioners of Domestic States decorated another, and the President of the Exposition took from about his own neck the ribbon of Exposition colors he wore and put it about the neck of the third. With it went the message to the President of the United States, which the Guards were charged to dispatch; the message reading:

"*San Francisco, California, December 4, 1915.*

"*HONORABLE WOODROW WILSON,*

"*President of the United States,*

"*White House, Washington, D. C.*

"*Your inspiring sentiment has at the appointed time just been read. The enthusiasm it received is expressive of our hope that real world service has been performed here.*

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"Our task is finished. We realize that time, and time alone, must determine the exact place in the scale of human usefulness that history will accord us. The contributions of Nations, States, organizations, and individuals have been offered with earnestness and the enthusiastic hope that results beneficial to the world's progress and advancement will follow.

"Your endorsement of our efforts is most gratifying.

"Please accept assurance of affectionate and patriotic regard.

"CHARLES C. MOORE,
"President Panama-Pacific International Exposition."

The Guards marched away, the sailors fired a salute from their rifles, the big guns on the battleships boomed forth. From the top of the Tower of Jewels an American flag, a wreath, and an Exposition banner descended a long, slanting cable to a point over the heads of the crowd, whence doves were released, to circle uncertainly awhile and then join the flocks that had given animation to the Court of the Universe throughout the Exposition period.

An overflow crowd that could not get into the Court of the Universe heard the reading of President Wilson's toast by Director Frank L. Brown, at the Exposition Race Track, where Justice Harry Melvin of the Supreme Court read George Sterling's poem.

During the afternoon, ceremonial calls and farewells were exchanged between the Foreign and State Commissioners and the Directors of the Exposition. The people were pouring through the gates like army corps, 459,022 of them in all, swelling the total for the period to 18,876,438. It was a larger attendance than on the greatest day at St. Louis and contributed to a larger total of paid admissions.

Well Done, Good-bye!

Accompanied by buglers, an escort of Exposition Guards and soldiers, and a "town crier" in colonial costume, the President of the Exposition and the Director of the Division of Exhibits went the round of the palaces (with the exception of the Palace of Fine Arts which was to remain open four months longer), to say to the various exhibitors and department chiefs, "Well done, and good-bye," and to command the latter to close their doors formally at six o'clock. The ceremony took place in each instance on a little platform at a main entrance, and was accompanied by the lowering of the palace flag.

Night came on, and the world's wonder of lights; the Exposition lights that would never shine again—a red glow on Kelham's towers, rose flame in the porches of the Machinery Palace, dim reflections in the Lagoon of the Palace of Fine Arts and the broad basin in the Court of the Four Seasons,

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the splendor of the giant monstrances in the Court of Abundance, the silver phosphorescence of the Adventurous Bowman on his column and the Lord of the Isthmian Way on his rack-o'-bones horse, the tremulous, frosty shimmer of the hundred thousand jewels of the great spire; and over all, the long bands, like gleaming metal, of bronze and crimson and green and blue, from the forty-eight searchlights on the Yacht Harbor mole, bands that barred the heavens so far that they deceived the eye and in the southeast appeared to converge beyond the hills of the city.

There were fireworks on the Marina, with bursting globes of gold reflected in the waters of the Yacht Harbor and the Bay. But long before midnight the crowds left the scene and poured from the Esplanade into the Court of the Universe for the last act of the drama.

And nature still was kind. The night was balmy, with hardly a stir of breeze. Again the people packed the Court. The end was near.

The End Approaches

For years most of them had worked and waited and hoped for the Exposition. For 288 days it had been doing its work, celebrating the greatest material achievement of man, teaching men science and industry and commerce, and how to enrich their lives with art; answering from the rostra of assembly halls and from every palace aisle, as well as human contrivance could answer, the prayer of the dying Goethe for "More light!" And it was nearly over. The minutes marched with iron tread. They could not be stayed. A choir sang the Hallelujah Chorus, but the concourse was very still, expecting the hour of fate—the termination of an epoch in the history of every soul there present, of an era in the evolution of human affairs. Here and there one heard a half-stifled sob, forced by the anticipated craving for the return of what could never be again. Simply and clearly the President of the Exposition began to speak:

"The end of a perfect day, the beginning of an endless memory! We know now more than ever how through all the trying months God's blessing has been ours.

"We have assembled here, we builders of the Exposition, for the last rites before official closing. Through it all, good friends, keep a smile on your faces, though there be tears in your hearts.

"It is not a time for words. We have been on trial before the tribunal of the world, and what could be said here could not make up for omissions, nor could it add to our accomplishments.

"We are here to perform the final act of putting out the lights that we hope have burned brightly, to good purpose. Those lights must now be dimmed.

"Whatever place is given us by Time's deliberate but fair decision,

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at all events we have the consciousness of knowing that we, the forces, elements, and factors involved in this work, have striven earnestly and conscientiously to meet a great responsibility. We hope, we pray, that we have succeeded. Time, in its fullness, must respond.

"The wizard of sentiment and verse, our own George Sterling, has prepared some lines for to-night. Hear the stirring words. He sings:

"The hour has struck. The mighty work is done.
Praise God for all the bloodless victories won.
And from these courts of beauty's pure increase
Go forth in joy and brotherhood and peace.'

"The time approaches. If the reverential prayer of a layman is permissible, let me quote those inspired words, ages old: 'The peace of God, which passeth all understanding, keep your hearts and minds in the knowledge and love of God, now and evermore.'

"Friends, the Exposition is finished. The lights are going out."

Not abruptly, but slowly and gently, the lamps grew dark, the beams of the searchlights faded, and arches and courts and colonnades and towers and sculptured forms of men and women and angels and great beasts receded into the friendly night, lighted now by the glimmer of the winter stars, Orion and Sirius, Aldebaran and the Hyades. The last searchlight beam lingered on the beautiful figure of "Descending Night," but that, too, reluctantly faded away; and through the starlight, "Taps" dropped in liquid notes from bugles high on the Tower of Jewels.

It is Over

The lights came on again, but nevermore the lights of the living Exposition. For that, they spelled "Finis" across the lower gallery of the Tower. Six hundred steel mortars planted along the Marina discharged as many bombs into the air in the most spectacular salvo of fireworks ever seen, and then was heard the welcome whir of "Art" Smith's engine as his aeroplane glided upward into the velvet sky, to turn over and over in trailing wreaths of fire.

No one was hurried away. It was the wish of the President that all who felt so disposed should linger as long as the mood lasted. There was no vandalism, no destruction of property. It was after four o'clock in the morning of the 5th before the last weary visitor was willing to say good-bye, and to admit in his heart that the lights of the Exposition had gone out forever.

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THE LAST GLEAM

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CHAPTER XXXV

THE PASSING OF THE EXPOSITION

"But yet I know, where'er I go,
That there hath passed away a glory from the earth."
—*Intimations of Immortality.*

IN general, organizations come under a tragic law: they tend to forget their objects and devote themselves to self-perpetuation. An exposition escapes that living decay. When its time comes it dies a clean death.

The morning of December 5 saw on the grounds one of the fellest works of time. The Exposition was dead. It had been a beautiful thing of life and fire. In every limb and feature it was the clay-cold corpse; the soul was gone. It was Sunday. Guards were on duty, a few other Exposition employees moved about the buildings, and the public entered and wandered aimlessly along the avenues; but nobody had anything to expect, no anticipations except the sure dissolution of what was before him. There was no music anywhere, no laughter, no life. The last of the warships to leave the Exposition anchorage, the faithful old "Oregon," weighed her hook and departed on December 6. The very seagulls gradually abandoned the place.

When Life Had Flown

The men that built the wondrous city were eager to tear it down. It was a strange phenomenon; they showed the same ardor for destruction that they had shown in creation. But months elapsed during which the engineers had to restrain their impatience while the palaces were emptying, and then they attacked it. Where saws and axes and peavies were too slow they tore at it with wire cables and steam power, and when those failed they shot it down with dynamite. Colonnades were overthrown; domes and towers and pylons, miracles of lovely form, plunged downward into dust, and the dust rose like smoke from their wreckage. Thousands came to see it—and couldn't look. That fairy mirage, which had hung for a year above the margin of the bright blue strait, which had meant so much in the lives of the people of San Francisco and the people of California, and of the Nation whose

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genius it expressed, and of the people of all the world who had crossed continents and oceans to see it, some to be a part of it, dissolved into poor, shattered fragments and prostrate ruin, mortality of mortalities. What could be sold was sold, and of the rest some was given sea burial and some was burned, and the funeral pyres of the modern world's utmost beauty smoked for weeks from the places where life had run so full, and joyous millions had found it so well worth the living.

As for the wreckers, part of them were seized with the passion of "site restoration," and the other part with the passion for "salvage." How much would the raiment bring? Both site restoration and salvage were great and important works, but we need concern ourselves here only with their larger aspects.

Destruction set in gradually. The first business was to clear the railway tracks, open the portals into the palaces, and provide for the egress of the exhibits and other material. Not much demolition was required for these operations; a column out of a colonnade here, a removable section of wall out there, all planned before a thing had been built, and then the box cars began running in and out through yawning gaps that only portended what was to follow.

Visitors continued to come in numbers, although necessarily excluded from the exhibit palaces. Some attractions were provided and the Department of Admissions maintained a strong staff for a time. The admission fee was cut in two. On Sunday, December 19, with "Art" Smith, and La Loie Fuller and her dancing girls, as attractions, 10,012 people paid to enter. The annual municipal Christmas tree festivities were held in the Court of the Universe on Christmas Day. Children were admitted free, entertained with music and presented with candies. The total attendance was 7,899.

Business Goes On

After the opening of the Fine Arts Palace on January 1, 1916, a monthly commutation ticket of admission was sold at $1, entitling the holder to enter every day for a month. It did little more than pay for printing and was not long continued.

A year after Opening Day the Preservation League held a "One Year After Day," the proceeds to go toward the preservation of certain features that seemed capable of being usefully preserved. The attendance that day was 45,793, of which 10,016 were free. The grounds were rented to the League for $1 and expenses, and the preservation fund thereby gained $8,464.

The last admittance fee, a 25-cent piece, was received by the "Captain of the Gate" in the afternoon of November 15, 1916, and brought the total

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cash revenue for the post-Exposition period to $44,343.30, from 162,728 paid admittances. The Exposition thus derived, after paying the Preservation League its $8,464, the sum of $35,352.90 from gate receipts after the end of the season. The total number of admittances in the post-Exposition period, including all permits and returns, came to 888,929. In the 347 days it had dwindled from 1,478 paid and 6,496 free on December 5, 1915, to 22 paid and 468 free. The net daily average revenue for the time was $101.88.

Interest slowly turned to the permanent memorial of the Exposition, the Auditorium. On December 14, the Board of Supervisors of San Francisco formerly named it by resolution the "Exposition Auditorium," which became its official title and is lettered on the frieze above the main entrances.

About 3,000 people assembled there on the evening of December 30 to witness the ceremonial conveyance of that magnificent gift to the city. Among them were many Directors and officials of the Exposition, so that it was like a family reunion. Supervisor J. Emmet Hayden presided. President Moore turned over a golden key to Mayor Rolph, after saying:

"Owners of the Auditorium, I feel as you feel the pride of possession. I do not regret the transfer of this building, but as a citizen I rejoice in it. It is a precious thought that out of the Exposition there should come so precious a heritage."

In accepting the key, Mayor Rolph presented the President of the Exposition that was, with a golden scroll bearing a message of appreciation, signed by Governor Johnson, Mayor Rolph, Marshall Hale, and a number of other citizens. Accompanying the scroll was a set of five commemorative Exposition gold coins, struck at the San Francisco Mint. There was an address by Governor Johnson, sent over a telephone line from his house on Green Street, to which he was confined by an illness, and delivered in the Auditorium by means of a sound-magnifying apparatus. And there was an address by John Galen Howard, representing the City Board of Architects, a solo by Mme. Bernice Pasquali, who had sung at the opening ball, and music by the Municipal Chorus and the Municipal Band. It was an impressive ceremony and a significant occasion, the last of the great occasions of the Exposition year.

The Last Occasion

There followed shortly the installation, under direction of the Division of Works, of the great Exposition organ from Festival Hall, which was dedicated by Edwin H. Lemare, the city's official organist, on April 8, 1917. The platform on which it stands bore the inscription:

"THIS INSTRUMENT, A GIFT FROM THE PANAMA-PACIFIC INTERNATIONAL EXPOSITION TO THE CITY OF SAN FRANCISCO, WAS INSTALLED IN FESTIVAL

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HALL DURING THE EXPOSITION OF 1915 AND, IN ACCORDANCE WITH THE ORIGINAL PURPOSE, WAS REMOVED TO THIS MEMORIAL EXPOSITION AUDITORIUM.

"THE EARNEST MEN AND WOMEN WHO MADE THIS POSSIBLE CHERISH THE HOPE THAT ITS USE FOR WHOLESOME AND UPLIFTING PURPOSES WILL CARRY FORWARD, FOR THE BENEFIT OF ALL, THE SPIRIT THAT ANIMATED THE EXPOSITION."

Let us close the chapter with these fine stanzas by a San Franciscan that loved the Exposition well.

THE EVANESCENT CITY

Great on the west, ere darkness crush her domes,
  Wine-red the city of the sunset lies.
Below her courts the mournful ocean foams;
  Above, no foam of cloud is in the skies.

Awhile I stand, a dreamer by the deep,
  And watch the winds of evening sap her walls,
Till ashen armies to the ramparts sweep
  And seas of shadow storm the gleaming halls.

So dies that far magnificence of light,
  A conquered splendor on a crumbling pyre,
'Mid fall of crimson temples from their height,
  And ruined altars yielding up their fire.

So fades that city, one with all that finds
  The nameless road that beauty takes at last—
One with her dust upon the twilight winds
  And all her music mingling with the past.

"Farewell!" I whisper low—then thrill to see,
  Unseen till now, eternal and afar,
Soul of dead day and pledge of peace to be,
  The tranquil silver of the evening star.

And even thus our city of a year
  Must pass like those the shafted sunsets build,
Fleeting as all fair things and, fleeting, dear—
  A rainbow fallen and an anthem stilled.

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CLOSING NIGHT ON THE ZONE

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A rainbow fallen—but within the soul
  Its deep, indubitable iris burns;
An anthem stilled—yet for its ghostly goal
  The incommunicable music yearns.

Only for Beauty's passing shall we trace
  The heavenly pathway that her feet have trod;
Only at her departure seek her face—
  We that shall find it not this side of God.

GEORGE STERLING in "Sunset Magazine."

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CHAPTER XXXVI

EXODUS

THERE was much agitation about preserving the Exposition and keeping it open indefinitely. There always is, accompanying the closing months of every such affair. There always is, and it is always futile. An exposition is not a thing that can be sustained indefinitely. It is a beautiful rocket that will not stay up long, and there is little joy in playing with the stick. Probably you cannot have a permanent exposition (except in the sense of a collection of commercial samples), for the same reason that Poe thought you could not have a good, long poem. It is a thing of sentiment and emotion, and those are psychic fires that burn themselves out. With the exception of the Palace of Fine Arts, the California Building, and the Marina with the Column of Progress as its dominating feature, all of which because of especial values had become the object of well-conceived schemes of preservation, this fairyland had to be given up.

Transient Beauty

No important organization changes were made at first. Markwart, who had resigned early in the operating season, had returned to report on the possibilities and costs of preservation, and resumed his old post as Assistant Director of Works and Chief of Construction. For a time it kept him busy trying to find something to wreck that would not interfere with the many preservation plans. Connick remained at the head of his Division. As long as there was service they could render many of the same men were retained that had been engaged in the operation of the plant, and before that in the construction of it; merely being assigned to new duties under their old classifications and superior officers wherever possible. This was in accord with the Exposition business policy of keeping the Division of Works alive and active throughout the season in order that the vast and complicated business of wrecking and restoration, with all its responsibilities, might be expertly handled at the last. Theodore Hardee, Director of Special Days and Events, and Chief of the Department of Liberal Arts, became Acting Director of Exhibits and devoted long hours to adjustments of complaints and claims; which kept things running satisfactorily, almost smoothly, with the exhibitors.

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The general offices of the Exposition removed a few weeks after Closing Day to the fourth floor of the Exposition Auditorium, but the offices of the Divisions of Exhibits, Concessions and Admissions, and Works, with the Comptroller's office, remained for some time longer in the Service Building in order to be in the field. The Traffic Department and that of Customs and Deliveries continued to transact business in Festival Hall.

Little could be done toward clearing the lands of the buildings until the buildings had been cleared of the exhibits and the booth and installation structures. The exhibits probably numbered millions of separate objects, installed in booths of every imaginable sort, from the lightest wooden walls and cornices and shelving to the moving picture theaters and the reinforced concrete bases of some of the heaviest machinery, including the huge turn-table of the Westinghouse electric locomotive. But so well adapted was the Exposition system to its object that all but three were out by March 15; and these were the only ones that the Exposition had to remove.

Clearing the Palaces

The exodus from the palaces began promptly on December 6. It was necessary to take every precaution against fire as soon as packing began, as booths and aisles were cluttered with a chaos of packing materials and trash, so fire marshals were employed to see that rubbish was not permitted to accumulate where it would increase the hazard; that is, anywhere. A fire dump was established on the Presidio beach, under control of the Exposition, where wrecking contractors were permitted to burn debris. Most of the exhibitors sold their booths to wreckers, and others let contracts for the work.

Probably no such rapid pack-up and departure as the exhibit palaces displayed from December 6, 1915, to March 1, 1916, was ever seen in the world before. Long before Closing Day a set of rules based on the contractual obligations of the exhibitors (assumed when they took their space) to clear out completely by March 15, 1916, had been issued. These read:

PANAMA-PACIFIC INTERNATIONAL EXPOSITION

SAN FRANCISCO, November 1, 1915.

TO ALL EXHIBITORS AND PARTICIPANTS:

The following regulations covering the removal of exhibits and material of all kinds will be in effect on December 5, and all interested are urged to acquaint themselves with the requirements prior to the closing day.

A form of "Application to Reship" will be prepared and distributed by the Exposition. When goods are packed and ready to move this form must be filled and filed with the Department of Customs and Deliveries, representing the Division of Exhibits and the Division of Works, 103 Festival Hall.

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All freight shipments will be handled from space to carrier by the Traffic Department exclusively and at the rates prescribed in the Rules and Regulations, and no individual teaming of such shipments will be permitted.

In the case of exhibits which originated locally and are to be so delivered the exhibitor will be expected to utilize the city service which will be maintained by the Traffic Department at the regular rate of 10c per 100 pounds, minimum charge $1.00. In exceptional cases where it is impossible or manifestly inexpedient to utilize this service, the Department of Customs and Deliveries will be authorized to issue permits for the entrance of exhibitors' vehicles and removal of material, subject to such additional regulations as may be later promulgated.

The operation within the Grounds of trucks other than those of the Traffic Department will be discouraged and prevented as far as possible. This rule is necessary for the protection of property; is in the interest of all concerned, and the coöperation of all participants toward its enforcement is earnestly asked.

No removal permits will be issued or removals made until a clearance is furnished by the Comptroller showing that all Exposition bills against the shipment are paid. This clearance wherever possible should be filed with application to reship.

No material of any character will be allowed to leave the Grounds without permit from the Department of Customs and Deliveries, and proper filing of application and evidence of ownership is a condition precedent to issuance of such permit.

No material will be permitted to be taken from any exhibit palace except upon permit from the Department of Customs and Deliveries.

On freight shipments, whether revenue or free return, shipper, after filing application to reship with the Department of Customs and Deliveries, must call at the Traffic Department and prepay terminal charges. The filing of proper papers and payment of terminal charges is the sole requirement made upon shippers, and goods will be removed promptly upon compliance with same.

The removal of exhibits will be handled by the Traffic Department as nearly as possible in the order that the "Application to Reship" is filed and the outbound terminal charges paid and receipts therefor issued.

The delivery of empty packing cases from storage will be made as nearly as possible in the order that PAID storage receipts are presented to Traffic Department, 104 Festival Hall, and application made for delivery.

No trucks or wagons, empty or loaded, will be admitted to the Grounds without special form of permit which will be issued upon application to the Department of Customs and Deliveries, and then only upon presentation of evidence showing necessity therefor.

Entrance and exit gates and route within Grounds must be followed as indicated on permit.

Blank forms of "Application to Reship" may be obtained from the Department of Customs and Deliveries, from the Chief of any Department, or from the Superintendent of any building.

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THE LAST PYROTECHNICS

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The Exposition will coöperate in every possible way for the protection and convenience of participants and expeditious removal, and the assistance of all in the carrying out of these necessary and simple regulations is confidently anticipated.

A. C. BAKER,
Director of Exhibits.
H. D. H. CONNICK,
Director of Works.
A. M. MORTENSEN,
Traffic Manager.
RODNEY S. DURKEE,
Comptroller.

Approved:
CHAS. C. MOORE,
President.

The Exposition over, the Traffic Department became of the greatest service to exhibitors in assisting them to get away promptly and with the minimum of trouble. It had warehoused their packing cases and it prepared to forward their goods as rapidly as they could be packed and picked up, over any line or system. After an exposition closes the exhibitors like to stay around the place about as much as they would like to stay on a burning ship. It was expected that over 50 per cent would appear at the Traffic Department's offices in Festival Hall ready to make shipments the day after the close. In anticipation of the rush the offices had been remodeled so that business could be transacted through several windows, leaving the clerical force a free hand within. The Traffic Department delivered exhibitor's packing cases from the warehouse where they had been stored. Shipments were handled on the grounds exactly as though at a local freight house. All shipping papers were supplied by the Traffic Department, so that the exhibitor did not have to go to any other railroad office.

After Closing Day there was a rapid expansion of the force of the Department of Customs and Deliveries to 48 employees, for that office now had some of its hardest work to do. Removals were controlled by a rigid system of packing and exit permits, conditioned on a Comptroller's office clearance, to make sure that all service bills were paid and all exhibit space cleared of booth construction. Outside trucking was excluded, for the general protection of property, the Exposition having bonded draymen for this work. By January 31, 1916, over 90 per cent of the domestic exhibits were out of the grounds. By February 11, practically all material except some foreign exhibits delayed by customs requirements had been removed, and the palaces were about 80 per cent empty. By March 1, the average clearance stood at approximately 98 per cent, and the palaces were ready for the wreckers. Bills outstanding had been

Movement Controlled

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collected to within $1,000 of the total; about $100,000 was taken after the last week of the season. Vandalism, disorder, and confusion had been effectively prevented by an efficient Guard service and a strict enforcement of permit requirements. It was a record without precedent.

Although most exhibitors began their packing promptly on December 6, immediately after the delivery of their packing cases by the Exposition railroad, no exit passes for the exhibits were issued until the owners had obtained a clearance from the Comptroller's office and had made the required arrangements for the removal of their booths. Some few might have forgotten this little formality, but the Exposition had a sort of innkeeper's lien on their baggage, and enforced it.

This result was brought about by a most rigid system of permits and inspection. Among the requirements from an exhibitor, or a wrecking contractor who had assumed the exhibitor's obligation, was the condition that before a permit was issued he should present satisfactory evidence of ownership or authority, put up a sufficient bond or cash deposit to insure the completion of the work, and satisfy the proper authorities that he was sufficiently covered by workmen's compensation insurance. The bond was made large enough to complete the work should it be abandoned, and discharge all claims. The permit was posted on the job, and Exposition inspectors saw that the work was done in accordance with it, and within the time specified. This required at first two inspectors on the Zone, six in the palaces, and one in the foreign and State section. Sixty of the Guard, given police authority by the Police Commissioners, aided in the enforcement of rules, in addition to their regular function of guarding property and the gates. Capt. Carpenter left about March 1, but before he went he distributed in the name of the Exposition some 500 bronze service medals to as many members of the Guard: a formal but a heartfelt recognition of their fidelity and most intelligent and effective coöperation with the management.

Work Done Under Bond

Rules governing the removal of buildings will be found in the appendix.

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CHAPTER XXXVII

WRECKAGE AND SALVAGE

" . . . No dirge except the hollow sea's
Mourns o'er the beauty of the Cyclades."
—*Don Juan.*

MEANWHILE the Exposition had been selling salvage, the energies of the old purchasing arm of the organization being directed now to purchasing cash with every scrap of material it could lay hand upon. Anyone connected with the institution during these days can testify to the abundant zeal this arm displayed. It seized furniture, rugs, carpets, files, automobiles, thumb tacks, revolvers of the Guard department, bottles of ink, paste pots, scratch pads—any of the multifarious belongings and properties of this vast and complex organization that could be turned into money; and opened a store for the sale of them.

Sales were at first carried out under direction of the Comptroller's office. Part of the material was sold at the warehouse near the ferry slip, and the rest at the Motor Transportation Building, which became a large Oriental bazaar filled with Occidental goods. In general these goods were priced at about 50 per cent of what they had cost the Exposition, but in some instances the price was higher than the cost, owing to advances in value, and in others far lower because of deterioration in use.

Disposal Methods

By the time some $60,000 worth of miscellaneous materials and equipment had been disposed of in this way, toward the end of March or early in April, 1916, the palaces were ready for the wreckers. The disposal of these buildings involved a large element of speculation. Here were important quantities of material certain to change in value; which way nobody could tell. It would be about as perilous to hold it as to sell it.

Subsequent facts have nothing to do with decisions, unless you can see the facts coming. The business of the Exposition was not to speculate in these materials by holding them for a rise, but to clean up and get off the lot; the best method of doing which was the subject of the keenest analysis the

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engineers of the Works Division and the business talent of the Building and Grounds Committee could bring to bear on it. But two practical alternatives presented themselves: to dispose of the buildings and engineering materials piecemeal, selling Festival Hall, the Tower of Jewels, the Palace of Horticulture, and miscellaneous small buildings as they stood, or to sell the whole field of buildings and their appurtenances to one man and let him handle the demolition.

The second plan had many theoretical advantages over the first, but the best bid the Division of Works could get under it was $4775.

Forty-seven-hundred-odd dollars for an Exposition had a dismal sound, and was like to have a worse echo. So it was decided to proceed under the first plan, reserving from the offer of sale the Race Track structures, Marines encampment, and dairy barn, which were on Government land and were retained by the Government, the Motor Transportation Building, and Service Building, which the Exposition itself would need for awhile, the Palace of Fine Arts, the California Building, and the Column of Progress.

It was a happy resolution, and, coinciding with some large advances in the prices of materials owing to the war and to a longshoreman's strike that held up deliveries of lumber in the city for some time, it netted the Exposition far more than anybody familiar with such problems had expected.

Business of Engineers

With this decision it became evident that the sales of salvage would involve large quantities of engineering materials, and would better be carried out through the Division of Works, whose technical men were accustomed to such commodities, so a Department of Sales and Salvage was organized within the Division to take over this function. Several different departments became involved in the final disposition of the material. The Landscape Department naturally took charge of the sales of plants. The Stores and Supplies organization, affiliated with the Purchasing Department under the Comptroller, superintended chiefly the sales of furniture and equipment.

A new sales system was put into effect, the basis of which was the exit permit that had been used to control the withdrawal of exhibits. Before the store-keeper could deliver goods to a purchaser he had to have an order on himself from the Salvage and Sales Department. The purchaser could not get out the gate with his purchase unless he had an exit permit, which described the goods, told his name and address and whether he had paid cash or had had the purchase charged, and was signed by the store-keeper and approved by the Salvage Department after a complete entry of the sales had been made in that Department's books. Duplicates went to the Comptroller's office on forms especially prepared. The system covered every-

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A BACKWARD GLANCE

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thing on the lot, right down to the frames and timbering of the buildings, and the underground pipe lines. There was continuous coöperation with the superintendent in charge of wrecking operations, to determine what material should be hauled to the "store" and what had no sale value and should be burned.

A large item of restoration, in addition to restoring the lands, consisted of the transmission cables and other electrical equipment leased from the Pacific Gas & Electric Company. The miles of cables had to be drawn from their underground conduits with the utmost care, and the wear and tear accurately estimated to the depth of the scratches on the lead coverings; and the same degree of care had to be exercised with all the transformers and other apparatus.

The problem of the sale of material and standing improvements on such a scale presents phases the ordinary person never has occasion to consider. The salvage value of timber descends rapidly as you ascend to get it, and at perhaps 35 or 40 feet from the ground is nearly nothing; for you can't throw the building down from such a height without shattering a large part of the frame and sheathing; and if you build staging to get the material down unbroken the cost of the staging will probably eat up the value of what you recover. The glass in the dome of the Palace of Horticulture had to be recut, for it had been shaped to fit the converging ribs. Then there was the Tower of Jewels; the more such a thing costs to put up the more it will cost to take down, which melts the salvage value, and the Tower had cost about $413,000. It was worse than an Ice Palace. Of the cost, $100,000 went for plastering, which was not only a total loss as far as salvage was concerned, but would cost about $3000 to dispose of. The structure had a very fine steel frame, of about 1460 tons, but it contained few standard shapes because most of it was "battered," or fabricated on a slant. This frame had cost about $137,000 erected, and not over 300 tons of it was good for anything except for scrap. Most of the lumber in the structure would be worthless and the rest worth very little, for in building, half a million feet of it had been sawed into unmarketable short bits. There was probably between $30,000 and $50,000 worth of salvable material in the structure, which would cost anywhere from $20,000 to $40,000 to get out, depending on how cannily the wrecker handled the job. The Tower of Jewels went for $9000, which the Buildings and Grounds Committee considered a good price. It was said that the actual cost of equipment and labor necessary to wreck it came to $40,000, and after eight months of hard work under heavy liabilities and with a large amount of working capital tied up in the venture the contractor declared he had about come out even.

Shrinking Values

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He made more money on the underground pipe, which rose in value while it was in the ground.

The Palace of Horticulture was a somewhat similar case to the Tower of Jewels. It sold for $5000. The high and low pressure piping throughout the grounds brought $23,000, and the water and gas piping in the palaces brought another $25,000. Materials in floors, roofs, and skylights brought $26,500. These were major items.

Bids were not accepted blindly merely because they were highest, but were compared with carefully worked out estimates of salvage values. Bids for the larger improvements were reported, with recommendations to the Buildings and Grounds Committee which decided whether the price was right or not. Over 2600 separate sales were made, and the documents relating to them carefully guarded the Exposition against loss, and provided that the purchaser should take away the materials and leave the ground in order, within a strictly limited time. In other words, the purchaser did a great deal of work for which he received a building, or materials, and paid the Exposition besides.

Wrecking had to be done in accordance with rules of the Division of Works prepared in the closing days of the Exposition season and approved by the President as of Closing Day. Brangwyn's murals went to the Palace of Fine Arts, and so did Mathew's lunette from the Court of Palms. Two mural paintings, by Du Mond, went to embellish the Public Library of San Francisco. The travertine statuary had no sales value and belonged so properly and particularly to the setting for which it was designed that most of it literally could not be given away. It was offered to any municipalities that would take it but only four accepted the offer of any part.

Its Work Was Over

No contractor seemed willing to undertake the wrecking of the huge wooden frame exhibit palaces and court construction, so the Exposition decided to do it. The field forces had been reorganized, and work began on the courts towards the end of March, 1916. The plan of organization was:

A superintendent in charge of all the work; this was William Waters, Superintendent of Building Construction; cost and field clerks, a lumber yard foreman with a stock clerk, two lumber handling foremen with 12 laborers each, one loading foreman with 14 laborers, a mill foreman with two mill men, five laborers and two tally men; a wrecking foreman to have seven foremen under him with 16 to 22 laborers each, a utility man, eight teamsters, a rigger foreman with an engineer and two riggers, a high foreman with two handy men and two high men, a powder man and a tool man; a grading

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foreman with an inspector of the public dump and five laborers, five foremen with 40 teamsters and 60 laborers, and a garden foreman with 14 gardeners and two teamsters; and for the Service yard a foreman, three carpenters, two plumbers, four laborers, a master machinist, a machinist, a machinist's helper, and a blacksmith, and blacksmith's helper. Not all this force was put into the field directly, but it was the organization plan it was decided to reach as operations grew.

The principal equipment consisted of two donkey engines, a concrete breaker, 10 motor trucks, 70 stevedore trucks, four trailer wagons, and a hundred head of stock.

The method of felling the colonnades was of interest, and made one of the last mournful spectacles. With the wall and pylon attachments severed and the columns released at the bases, a wire cable was run behind the row and a donkey engine took it in, pulling down the columns in swift succession.

Arches, towers, and tall pylons were dynamited, the holes being drilled in the columns on the side toward which it was desired to drop them. The great arches at the east and west entrances of the Court of the Universe took about 28 sticks apiece, shot by one electrical contact. The Italian towers at the entrances to the Court of Palms and the Court of Flowers were felled in April. It was about the 20th of May that the Nations of the East on the Arch of the Rising Sun went down to final ruin. Their crack of doom was fired by the pressure of a button, and the vast structure on which they had stood serenely for more than a year while millions of people passed under them bowed slowly forward in a long descending arc. The Indian Prince, the Mongolian Warrior, the Arab Sheik on his camel, and their attendants and supporters, well anchored to their pedestal and stayed by iron rods, bowed to their fate but held to their positions until nearly on the ground. As the structure crashed to earth it seemed to melt into an inextricable mess of wreckage in which not a stick or timber of any value would be found. But, as in the case of the pylons, domes, and other tall structures, many thousand feet of servicable lumber were recovered from the ruins. The donkey engine and wire line dragged the heaps apart, and men with saws and axes cut out the bolts and tie rods. The lumber was stacked east of the Yacht Harbor, and the iron and steel was loaded on cars which went direct to the purchaser in South San Francisco.

Felled by Dynamite

In these salvage operations a unit of performance was adopted below which it was estimated that it did not pay to pull out and pile the lumber. That unit was set at 1000 board feet per day per man. When the lumber recovered fell below that, it was not considered worth the cost of handling, and was burned. The burning was taken care of, a day's heap at a time, by

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the Exposition Fire Department, with plenty of hose attached to the high pressure system, not yet sold, as a precaution against conflagration. The last remaining steel was raked from the ashes. A sales office for this sort of material was maintained in the Service Building.

The re-inforced concrete fire walls adjoining the courts were durable and troublesome. They took lots of dynamite, and after they were down a pile-hammer with a 20-foot drop from the end of a beam had to be applied to them to reduce them to fragments that could be dealt with by hand. All the concrete construction foundations, pole footings, and transformer vaults, were handled in this manner.

The total receipts from salvage sales, excluding land, came to $614,-110. It cost $259,800 to get out the material and sell it, so that the net return to the Exposition from this undertaking came to $353,121.29—somewhat different from the best bid of $4755 for the whole thing. The main items were: piping and sewers, $26,523; electric distribution system and electric equipment, $158,822—this was short material, unreturnable under the contract, and the price of which had risen; plants, trees, and shrubs, $17,462; buildings and improvements, including pipes within the buildings, $319,669; furniture and equipment, $90,712; concessions buildings, of which a few were taken over, $860. All these operations were carried out under the Buildings and Grounds Committee, whose approval was necessary for all sales of importance. The overhead selling cost for the disposal of salvage amounted to about 1½ per cent of the total income.

Salvage Returns

One of the serious problems was the removal of the foreign pavilions and State buildings. In many cases they were nothing but an encumbrance of the ground, as the commissioners did not want them any longer and there was no profit in their removal to other sites. Some were removed, it is true, though after long delay; and passengers on the Alameda County ferries were amazed one morning to see the classic Ohio Building gliding down the Bay on a raft, to become a club in the San Mateo County marshes—the strangest craft seen on these waters since Ayala sailed the "Toison de Oro" through the Heads. The Wisconsin Building, the Virginia Building, and one or two more went across the Bay in the other direction to become a part of Santa Venetia, in Marin County. Fortunately the Presidio lease from the Government, on which the foreign and State section had been built, did not expire until April, 1917. Most of the buildings were auctioned ultimately, and the wrecking proceeded under the rules. They did not bring much. It was intended to give the Chinese and the Siamese Pavilions to the city, but at this writing the city has not taken either of them. It did accept the

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"THE WINDMILL"

FROM THE MURAL BY FRANK BRANGWYN FOR THE COURT OF ABUNDANCE

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Japanese Pavilion for Lobos Square, but the structure collapsed in a high wind during the efforts to remove it. The Oregon Building remained in the Presidio as a club house for soldiers. It was not until March, 1917, that the dome of the Argentine Pavilion was felled.

Good-bye Zone

Clearing the Zone took longer than emptying the palaces, and was far more complicated, as all accounts with the Exposition had to be settled before anything could be done, and some were slow; but the last vestige of the great amusement street had vanished and the 97 pieces of realty on which it was built were ready for release to their owners by June 30, 1916. The buildings were generally sold to wrecking contractors, an arrangement that was made to work to the advantage of the Exposition, because in the transfer of obligations from owner to contractor where was an opportunity to re-define the conditions of the work. Moreover the contractor's interest was to get it done as soon as possible.

With the ground cleared, it had to be restored to its original condition or better. By permission of the owners the piles driven at various points remained. Foundation obstructions had to be removed and the streets and sidewalks brought back where they belonged. The 12½ acres of Lobos Square was opened as a public dump, then leveled up and planted, all at a cost of $33,510, and was restored in October to the Park Commissioners, who accepted it in December.

Some of the lands had not been filled up to the terms of the leases when they were built upon, and it was now necessary to carry out this part of the Exposition's obligations. They were filled partly by the public dump method, but by September, 1916, a suction dredge went to work pumping mud over them, and finished by January, 1917. The dredger fills in the post-Exposition period cost the Exposition $33,087, including the construction of retaining levies. The work of wrecking and restoration may be said to have been complete by February 10, 1917.

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CHAPTER XXXVIII

DISSOLUTION AND PRESERVATION

THE dissolution of the Exposition organization, outside the Division of Works, which had its tremendous labor to perform in wrecking buildings, restoring lands, and selling salvage, proceeded, generally speaking, from the heads of divisions and departments downward. In the main, the organization units "died at the top." Perry, Director of Exploitation, for example, had resigned during the latter part of the operating season, his work having approached its end so nearly that it no longer needed his direction and could be carried on by his subordinates. A similar process went on after Closing Day in the Divisions of Exhibits and of Concessions and Admissions; the heads left first, the diminished functions being discharged by the next in command, and then by the subordinate to the subordinate. Capt. Baker resigned, and Theodore Hardee became Acting Director of Exhibits, to deal with the complexities and complaints of removal. The Comptroller, Durkee, resigned, and his place was taken by his assistant, W. J. Pearce, who had become Acting Comptroller during the operating season. Late in the post-Exposition season, the functions of this office devolved upon Frank L. Darrell, as Acting Auditor. In many offices the last employee was a stenographer or secretary that had become familiar with the departmental undertakings and commitments, and with the assistance of the Comptroller's office could clean up the small hangovers of business.

Top Goes First

Even the Division of Works exhibited this phenomenon after its labors of wrecking and restoration were over. For more than a year it maintained its separate Salvage and Sales Department, but that dwindled to nothing and the Comptroller's office sold the few remaining goods and chattels. On Closing Day the Exposition pay roll numbered 1,700. By the end of the following February it carried 497. A year later, by February 10, 1917, the grounds were all clear, the hydraulic fill to grade was complete, and there remained of the Division that had built the Exposition a solitary surveyor-and-map-maker, and the stenographer to the Superintendent of Building Construction. She finished typing the Superintendent's report amid a dusty litter of old

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maps, drafting boards, and scraps of unsaleable "salvage" almost reduced to pencil stubs, in a loft in the Exposition Auditorium, and that was about the end of the organization that had built, and demolished, the "plant."

As the repository of the records of the Board of Directors and of full recollection of everything that had been done and the reasons for doing it, the office of the Executive Secretary, Joseph M. Cumming, and the files with Mrs. Marie Bromwell in charge, had to be maintained until the last. The rest of the work consisted in collecting the balances on the stock subscriptions, which was being attended to by the Law Department with the co-operation of the Comptroller's office; taking care of pending litigation, discharging the Exposition's remaining obligations, which included the large and intricate business of making out thousands of diplomas of award, under direction of Oscar H. Fernbach, Secretary of the International Award System, and despatching them with the medals to many exhibitors; and finishing, printing, and issuing this rather long but otherwise exemplary narrative.

Last Labors

In the meantime, work of preservation was going forward, in the hope of raising enough money to save the Fine Arts Palace, the Marina, the Column of Progress, and the California Building. Much real estate would have to be purchased and a great deal of money spent in giving a measure of durability to structures not meant to be permanent. The Fine Arts Palace at least would need money for operation. These things meant propaganda, subscriptions, legislative appropriations; and the necessary labors were carried on by the Exposition Preservation League, the San Francisco Art Association, many citizens' organizations of San Francisco, the State Commission, and the Trustees of the San Francisco State Normal School. In general these separate undertakings went forward as one scheme.

A last echo of many a happy evening was the Artists' Ball on April 29, 1916, for funds to keep the Fine Arts Palace open another year. Thousands made their way afoot and in motors to the California Building, and now it was through the wreckage of the Exposition palaces, a desolation weirdly illumined by a few remaining searchlights. The vast exhibit wing of the building had been cleared, and made the most colossal ball room used anywhere since the Ball of All Nations. The affair produced about $3000 toward the $30,000 needed to operate the Palace of Fine Arts for a year, and inasmuch as nearly $23,000 had already been raised by the Art Association, the Exposition turned over the building. From the middle of May to the middle of September, 1916, the attendance at the Palace of Fine Arts ran above 47,000 or about 400 a day, a great encouragement to preservation schemes.

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The Palace of Fine Arts still stands, in many respects the most beautiful building in the world, the most inspiring setting possessed by any art museum, in spite of the fact that its materials are impermanent. It is conducted by the San Francisco Art Association under the competent direction of J. Nilsen Laurvik, and Congress has empowered the Secretary of War to convey the Presidio land on which it stands to the Regents of the University of California, to continue its present use, in exchange for lands of equal value to the Presidio military reservation.

Normal School

At a special session of the Legislature early in 1916, bills were passed in furtherance of the project to convert the California Building to the uses of the San Francisco Normal School, which was then very inadequately housed on Waller Street. The Trustees were authorized to sell the Waller Street property and acquire either by purchase, exchange, or condemnation the site of the California Building; which was owned in part by the Exposition and in part by private parties from whom the Exposition had leased it. The city was authorized to transfer to the Trustees parts of streets on which the California Building stood; and Congress coöperated, inasmuch as parts of these streets ran through the Presidio. In this manner some seven acres of land were made available. A San Francisco State Normal School Exposition Preservation Fund was designated by act of the Legislature, into which was to be turned an appropriation of $200,000, to come out of the first money paid by the Exposition to the State as the State's share of the Exposition's unexpended capital.

Inasmuch as that was certain to exceed the sum appropriated, the Directors voted to turn over the amount, and so help the project along. About $75,000 of it was to be paid in real estate underlying the building, and the rest in cash. They were to pay about five-sixteenths, the State's share, of $650,000, which it appeared at the time could be safely set aside for distribution. This would come to $203,125, and thus cover the appropriation. Happy coincidence; but—

When it was proposed to pay the State its *pro rata* of the unexpended capital of the Exposition on the basis of five-sixteenths of the whole, which represented the State's proportion of what had been contributed, it was claimed by representatives of the State Commission that inasmuch as the 5,000,000-dollar contribution of San Francisco (five-sixteenths of the whole) had been made merely as a donation, and without expectation of sharing in any profits or unexpended capital, it could not be regarded as a stock subscription and so the share of the State should be five-elevenths instead of five-sixteenths. This would make a difference of about $142,000 for every million dollars distributed. The Exposition claimed that such distribution

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TRAILING FIRE

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would not be fair to the other stockholders, whose returns would be cut down in just that ratio. And in March, 1916, it was proposed to the Chairman of the State Commission that a friendly suit be brought to determine the rights of the matter. The suit was brought, and in January of the following year, Judge Seawell of the Superior Court decided in favor of the Exposition's view. The loser of the friendly suit appealed from the decision, and in August, 1918, the Supreme Court of California decided, Justice Sloss and Chief Justice Angellotti dissenting, that the State was entitled to a return of five-elevenths instead of five-sixteenths of the unexpended capital of the Exposition; a decision that cost the stockholders something over $220,000, and which there was no hope of reversing.

Friendly Suit

Meanwhile the Directors had voted to donate the California Building to the Normal School Trustees, and in January, 1917, bills were introduced at the regular session of the Legislature making available for the new school the proceeds of the sale of the old school property and adding some further provision for completing the scheme.

The rest of the story of the California Building, as far as it has developed, well illustrates the strange uncertainties of history. It had been impossible for San Francisco by any ordinary means to get a decent provision for its State Normal School. The movement under weigh had begun not merely as an effort to preserve a large and valuable part of the Exposition, but to secure adequate provision for the Normal School by saving the values in the California Building; which had cost about $458,525, which was a magnificent structure for its original purpose, and which although it was primarily an office and exhibit building with some large assembly halls, might apparently have been converted into a proper sort of school building. In condemnation proceedings brought by the Normal School Trustees against the private owners of some of the land on which the building stood, the owners obtained so large a judgment that the whole scheme seemed about to fail. But popular interest had been aroused, and with it an added popular comprehension of the great social and moral values of the State Normal School as an institution, helped no doubt by the broadening effect of the Exposition itself on the vision of the community. The public demanded that something be done about it, and a bill was introduced in the Legislature appropriating $130,000 to cover the extra expense this judgment entailed.

Opposition to the bill developed on the part of people that did not wish to have the school removed from the old location; and the result of long debates and the examination of the old and new sites by legislative committees, and of appearances before committees by President Matt I. Sullivan

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of the State Commission, and Mayor Rolph, and Attorney Brittain of the Exposition, and others, was the passage of a bill at last, signed by Governor Stephens on May 17, 1917, appropriating an additional amount with which to build a new Normal School on the California Building site. The California Building itself, instead of being donated to the Normal School Trustees was turned over to the State Commission as part of the general settlement, and wrecked for a salvage of $30,000. So a movement to save the California Building brought about its destruction, and an effort to prevent the removal of the Normal School promises to result in a new Normal School building on a site that ordinarily never would have been thought of for such a use. Truly, progress, whether of a school or an empire, never quite knows where it is going nor what it is going to be.

Strange Results

The Exposition Preservation League induced a large number of stockholders to assign their stock in the Exposition Company to William H. Crocker and Washington Dodge as trustees, for the purchase of the Marina lands. About $3,150,000 worth was thus put in trust. The Exposition owned a little over 12 acres at the Yacht Harbor, which it had had to buy because it had not been able to lease it, and Mr. Crocker held an option on two rows of blocks running eastward, to Webster Street, one south of the Marina, between Tonquin and Lewis Streets, and the other the water lots northward of it; and the plan was that when the unexpended capital was distributed to the stockholders the portion to be distributed to the $3,150,000 of stock in trust should be used for the purchase of these lands, which should then be given to the City. When the option matured the distribution had not been made, because, under California law, no distribution of capital could be made until all debts were satisfied and the corporation dissolved, and hence there was no money in Mr. Crocker's hands for the purchase; so the Exposition took it up, buying from the Law brothers, Mrs. Herman Oelrichs and Mrs. W. K. Vanderbilt, Jr., nine blocks of land on either side the Marina, stretching eastward from the Yacht Harbor to Webster Street. The price paid was $443,812. There was one tier of blocks under water, which, in case it ever got into the wrong hands, might have been filled, and used in such manner as to spoil the whole Marina scheme. Added to the land the Exposition owned eastward of the California Building and underlying the Yacht Harbor, these purchases assured to San Francisco one of the finest marine boulevards in the world, comparable to that at Rio Janiero, finer than the Marina of Naples. The Board of Supervisors appropriated $30,000 to begin construction of the roadway, and the Government appropriated another $30,000 to extend

Grand Marina

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the Presidio boulevard connecting the Marina with Lincoln Park; so that the plan promises a good beginning of a magnificent boulevard system for the city. Later on, these lands were conveyed to the State Commission in settlement between the Commission and the Exposition to carry out the Marina project; inasmuch as the value far exceeded the amount available in the hands of Mr. Crocker for that purpose.

The Art Palace and the Marina are by no means all the Exposition leaves to San Francisco, even in the domain of the material. Of even more vital importance in the city's life is the Exposition Auditorium, with its magnificent organ, built at a cost of $1,322,734, of which the Exposition paid $1,112,710. Here, in 1920, was held the first national convention of one of the two great political parties that ever sat west of the Rocky Mountains.

The Yacht Harbor, with the Scintillator pier as a breakwater, is a permanent addition to the water-front facilities at this point, and is of just the right character for yachts and motor boats. East of it is a long line of rip-rap seawall, which the Exposition built, running beyond Webster Street and ending in the bulkhead that protects the Exposition ferry slip. This is left to the city, and will furnish permanent protection to the Marina. The ferry slip itself is no small gain.

Had it not been for the Exposition, the Municipal Railway would not have been extended out Van Ness Avenue, and there would be no promise of a beautiful restricted residence park just within the city's water gate; something to greet the overseas visitor rather different in aspect from the old Harbor View section.

Early in the construction period the Exposition took about $137,000 worth of municipal sewer bonds, in order that there might be money to build the city sewers through the site. These sewers would not have gone in for some time had not the Exposition needed them.

Owing to the location of the Exposition, the Government derived large values from it in the form of permanent improvements of Government property and the approaches to it. It is not possible to appraise these improvements exactly but probably two million dollars would not be too large an estimate of the total public benefit in this form.

Government Benefits

As the Exposition cut off the approach to the Transport Docks at Fort Mason, it had to build a fine new concrete and asphalt roadway to them; a more direct approach than the old one. The Marina is a broad highway connecting Fort Mason reservation directly with the Presidio. No such connection existed before, and it was of tremendous value in war work.

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Fort Mason hill was tunneled by the Harbor Commission largely on account of the Exposition, and the Belt Line railroad was extended by way of the tunnel to the Presidio, a great gain to the military reservations.

The Exposition enlarged the Presidio. At a cost of over $81,000 it filled 114 acres of land, making good ground of what had been worthless swamp. It put in a good system of sanitary and storm sewers which can be used at any time. It spent $54,000 on a good connecting military highway, in effect a piece of boulevard, across part of the Presidio, making a link in the connection between Fort Mason, the Presidio, and Fort Miley. This was a vestige of the original plan to include Lincoln Park in the Exposition grounds. Thirty thousand dollars was appropriated by Congress after the Exposition closed, to extend this road to Fort Miley, which it did not quite reach.

The Government took over the dairy barns in the Live Stock Section with their appurtenances, for use as a remount station. The Race Track, drill ground and grand stand are of great value for Government purposes. The Exposition gave the Government the Enlisted Men's Club House, now in the Presidio, for a Y. M. C. A. building, and was responsible for the presence of the Oregon Building, which was presented to the Government by the Oregon Commissioners. The removal of the Life Saving Station practically resulted in a new establishment for the Coast Guard service, with a fine steel launchway, on a better site—all at an Exposition expense of $19,000.

The Government also obtained at about one-tenth what it would otherwise have had to pay, the corrugated iron buildings belonging to the Exposition, which it set up in the Fort Mason reservation for warehouses, just when warehouses would do it the most good. After the war broke out the Exposition invested $462,600 of its funds in Liberty Bonds.

These are among the major material benefits the vicinity and the country received from the Exposition. The far more valuable immaterial benefits, social, esthetic, intellectual, moral, spiritual, far exceed anybody's power to define.

In August, 1917, in the midst of war, President Wilson sent his "testimonial of appreciation" to the President, Directors, and Sub-Directors of the Exposition. We quote the one to James McNab, who was a hard-working member of the Board of Directors, and died soon after the close of the Exposition.

"In conformity with the joint resolution of Congress approved by the President of the United States, February 15, 1911, the Panama-Pacific

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MODEL OF THE UTAH COPPER MINE; UTAH BUILDING

OLD FAITHFUL INN; YELLOWSTONE ON THE ZONE

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International Exposition was held at San Francisco, California, from February 20, 1915, to December 4, 1915, to celebrate our Nation's important achievement in completing and opening the Panama Canal. Sharing the National pride and satisfaction which the pronounced success of this patriotic celebration warrants, I desire to extend very hearty congratulations and thanks, in which I am sure I speak for our people and their Government, to the board of directors of the Panama-Pacific International Exposition, of which James McNab was a member.

"WOODROW WILSON,
"*President of the United States.*

"The White House, Washington, D. C.
"June first, nineteen hundred and seventeen."

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CHAPTER XXXIX

LOSSES

FROM so large an organization engaged in a service so protracted it was inevitable that death should take its toll. The members of the Directorate and important committees were bound together for a great common object in a coöperation so vital that the loss of individuals seemed peculiarly personal to every one of the survivors. History may not enter too far into private sentiments, but must at least record the decease of those higher officials of the Exposition that died in office, or after having served throughout the Exposition year.

On April 5, 1912, died Andrew M. Davis, who was, as his fellow Directors said in their resolutions on his decease, "an honored and loved member of the Board," and through whose passing "the Exposition lost one of its most devoted Directors and sincerest advocates, whose wise counsel was of inestimable value and benefit to the cause he served." And far more might be said of him. He was all that is summed up in the appellation "a good citizen." He was ceaselessly active for the public welfare, and the community of San Francisco has been very much poorer since it lost him.

Robert Cameron Rogers of the State Exposition Commission died at his home in Santa Barbara on April 20, 1912. He was a citizen whose appointment to the State Commission had given much gratification to the Directors, and their sense of the loss of a valued ally was suitably expressed in resolutions of the Board.

Charles de Young occupied a place of great personal regard in the minds of his fellow Directors, and when he died on September 17, 1913, their sorrow was profound; in fact, the whole city felt the loss. The records of the Board bear this testimony to his memory:

"In his personal capacity he had won the affection and esteem of his associates, and as a co-worker in behalf of the Exposition he had always freely given his time and energy and had earned distinction for unvarying efficiency . . . The Directors hereby formally extend to his father, their colleague, Director M. H. de Young, and to Mr. de Young's family, heartfelt sympathy in their bereavement."

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A powerful though silent working part of the organization was the Voting Trust, for it held in its hands the life of the Board memberships, and could have reorganized the Directorate entirely if that had ever seemed advisable. It guarded the public interest with the utmost vigilance, and the public, practically speaking, never heard of it. One of its most effective members, a man whose judgment inspired the confidence of the whole city, was F. W. Dohrmann, founder of the Merchants' Association. In its obituary resolutions the Executive Committee of the Board said of him: "The Exposition has lost a valuable friend and an able adviser, whose memory will remain and continue with the memory of the Exposition itself." Mr. Dohrmann had been especially helpful in the early campaigns for public support. His death occurred July 18, 1914.

A man that gave the Exposition expert and valued service at a most important post was Arthur W. Foster, Jr., who performed the function of Assistant Treasurer until his death on May 25, 1915. Resolutions passed by the Executive Committee said of him: "He was a man of lovable personality, with a wide circle of friends . . . and he gave full promise of following in the footsteps of his father and maintaining a standing in the community as one of its most representative citizens. The Directors of the Panama-Pacific International Exposition feel that the Exposition and the community have suffered a great loss, and hereby formally extend to his father, their colleague, Director Arthur W. Foster, and to Mr. Foster's family, heartfelt sympathy in their bereavement."

Early in December of the Exposition year James McNab was stricken with apoplexy, and on March 13, 1916, he died at his home on Broadway. So San Francisco lost one of its best citizens, and the Exposition a Director that had brought to its upbuilding the greatest zeal and energy of which an individual could be capable. McNab was a man of broad and successful business experience, and once committed to the Exposition service he worked hard. He was a source of strength to his fellow Directors, for in the most hopeless looking situations his strong sense of humor and Scotch habit of looking facts in the face never deserted him. In a memorial adopted by the Board and signed by the President and Secretary he was described, and it was not mere formal panegyric, as "Big in frame and nature; lovable and loving; stalwart, true, and noble; failing never in effort; bearing burdens to lighten those of others; constructive always, ever building, ever striving for betterment of civic matters; holding on with firm faith in ultimate success when others would falter; genial, wholesome, kindly, and affectionate; master of men and things. . . . When alone memories of the Panama-Pacific International Exposition remain, the memory of James McNab

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will be so intertwined with it as to be inseparable, and in the minds of the Directorate ineradicable."

Dent Hayes Robert, Director of the Exposition and publisher of the San Francisco "Examiner", died at his home in Coronado, on June 17, 1917, after a long illness probably induced by overstrain at his work of guiding a great daily paper, and his labors in the Exposition's behalf. He was sincerely mourned by his fellow members of the Board, to whose counsels he had always added weight and wisdom, and whose burdens he had most cheerfully shared. It was Robert, it will be remembered, who suggested the subject of San Francisco's most famous organized carnival; and it was among the least considerable of his services to his city. His fellow Directors expressed their appreciation of his worth in an obituary which ended: "No one who lived to accomplish things as he did lived in vain, and by living he made the world nobler and better for those who come after him."

Perhaps in San Francisco there was no man that could inspire more real affection than Frank L. Brown, Director of the Exposition. Few men have passed from any community that have left wider and deeper regrets or the mention of whose name in any company is more certain to evoke an expression of sorrow for his passing. He died in New York on New Year's Day, 1918, and it was not as a mere ceremonial matter that the Board adopted this tribute to his memory:

"Frank L. Brown, by personal endeavor and sacrifice, stood particularly eminent in the success of the Panama-Pacific International Exposition. The work of the Exposition appealed to him in its most earnest endeavors, and the Directorate desires to pay its tribute of respect and admiration to his memory, not only as a co-worker but as a man deeply interested in the industrial, civil, and social life of his adopted State. He labored cheerfully and successfully to aid in the education and betterment of mankind; for this his voice was ever raised and his ideals left their impress on the work of the Exposition.

"That this testimony of appreciation and affection may be preserved on the records of the Exposition, it is ordered that the sentiments herein expressed be inscribed in the official history of the Exposition and that an engrossed copy thereof be presented to his family."

Joseph Sadoc Tobin, who was elected to the Board to succeed Andrew M. Davis, was one of the most helpful and effective members of that body, serving faithfully for a long period as Chairman of the Committee on Concessions and Admissions, where his legal education and his well-balanced sense of justice made him invaluable. He died at San Francisco on February

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THE FOUNTAIN OF EARTH

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5th, 1918. The minutes bear this testimony to the confidence and affectionate respect of his fellow Directors:

"It is with deep regret and sorrow that the Panama-Pacific International Exposition Company enters upon its minutes the notice of the death of Joseph S. Tobin, a member of its Board of Directors, who during the long period of preparation for the exposition, and during its existence, aided the work by his hearty coöperation, his sound advice and his excellent judgment in all matters that came before the Board of Directors for action.

"An agreeable and sympathetic companion, his presence helped to bear the burdens laid upon the members of this Board and its task was made much lighter by being shared with men like Joseph S. Tobin.

"To his family we extend our hearty and sincere sympathy and hope that there may be some consolation in that it can surely be said of him that he helped to make the world better by his works and his thoughts."

Mrs. Phoebe Apperson Hearst, Honorary President of the Woman's Board of the Exposition, a woman renowned for her charities and for her generous support of good works throughout the West, passed away at her Pleasanton home, the Hacienda del Pozo de Verona, on April 13, 1919. Her passing left a void in the life of California and a sense of loss throughout the Nation, for in spite of a delicacy that strove to conceal her donations she was known for her many charities from Coast to Coast. This tribute to her was adopted by the Directors of the Exposition:

"A life devoted to humanity has ended. Phoebe Apperson Hearst has passed away. With the welfare of mankind ever first in her thought, the Panama-Pacific International Exposition made its strongest appeal to her as another opportunity for her coöperation in its mission to bring the peoples of the world into closer understanding for world betterment and the increase of human happiness.

"As an American citizen she took pride in the Exposition as the celebration of achievement by the American people and as a Californian she welcomed the obligation on her State to act for the Nation as host to the world.

"Prëeminent among the women of the West as the embodiment of the highest ideals of womanhood, she was Honorary President of the Woman's Board of the Exposition, and its brilliant record of Exposition achievement is in large measure the record of her work and influence.

"The Board of Directors of the Panama-Pacific International Exposition, in common with all friends of humanity, joins in mourning the loss of this noble woman and in appreciation and loving memory orders this tribute entered on its records and inscribed in its official history."

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The President of the Pacific Ocean Exposition Company and first President of the Panama-Pacific International Exposition, Mr. Homer S. King, one of the most respected figures of San Francisco's early days, died on December 19, 1919, full of years and of honors such as few citizens attain. His invaluable services to the Exposition are thus acknowledged in the records of the Board:

"The work of Homer S. King, the first President of the Panama-Pacific International Exposition, and during the entire period of its preparation and its existence an active member of its Board of Directors, is done.

"The members of the Board and the entire city of San Francisco will always remember his never failing confidence in the just claim of our city to be designated as the exposition city of 1915 and in its ability to have a successful International Exposition. In the doubtful days when the designation hung in the balance and in the dark days when the European war made our efforts seem unavailing and many lost courage and hope of success, he never lost faith in the spirit and strength of San Francisco to overcome all difficulties and obstacles and present to the world an exposition which history will not soon forget.

"Able, amiable, and friendly to all it was only at his urgent request that he be permitted to retire from the presidency of the Exposition, that he was allowed to resign that office and then only on condition that he remain a member of its Board of Directors.

"He saw the beginning and the fruition of a great piece of work with which he was at all times closely identified.

"Our sincere sympathy goes out to his family for the irreparable loss which they have sustained and which is shared by the entire community."

Vice-President Leon Sloss died at his home in San Francisco on May 5, 1920. He was a native of California and a member of a great commercial family that had been at the forefront of Alaskan as well as California development. At the time of his death Mr. Sloss was President of the Northern Commercial Company. He was also a member of the Board of Trustees of Stanford University. The Directors of the Exposition adopted this tribute to him:

"Leon Sloss has passed away. Constantly responding, from his early manhood, to the call of public trust and duty, the Panama-Pacific International Exposition was to him another opportunity for service.

"To his sacrificing devotion is largely due the selection by the Congress of the United States, of San Francisco as the Exposition City. He was from the beginning a member of the Exposition Board of Directors and a Vice-

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President; wise in counsel and zealous in action, he was as an Exposition official, guided by the same ideals that marked his long career of service to his fellow man, to his city, to his State, and to his country.

"In the loving memory of his fellow Directors this tribute of affection and appreciation is entered on the records of the Exposition and ordered inscribed in its Official History."

Vice-President I. W. Hellman, Jr., died at his home in San Francisco on May 10, 1920, about a month after the death of his father. The importance of these men in the community would be hard to overestimate, and their loss was felt in corresponding degree. The Board took the following action in regard to the death of Vice-President Hellman:

"The Directors of the Panama-Pacific International Exposition in loving memory of Isaias W. Hellman, Jr., enter this testimony of high esteem and appreciation on the records of the Exposition and order it inscribed in its Official History.

"He was closely identified with the preliminary steps of the Exposition and from its organization was a member of its Board of Directors, and a Vice-President. He was ever at its service, giving freely of his high ability, mindful always of the Exposition's highest ideals and keenly alive to the trust imposed on him.

"He has been called away in the prime of a life already filled with accomplishment that was an earnest of still greater things, and his fellow Directors, so long and closely associated with him, in mourning his loss voice the sentiments of all who knew him."

The Nestor of American expositions, Dr. Frederick James Volney Skiff, died at Chicago on February 24, 1921. As Director-in-Chief of Foreign and Domestic Participation he had given of his best abilities to help make the Panama-Pacific International Exposition a success, and through that and several of its predecessors his influence for progress and the welfare of society was broad and profound. There is little we can add to what has already been said of him in this book. No person connected importantly with the Exposition could learn of his passing without deep sorrow; nor yet without some renewed sense of gratification at having been associated in a great work with one whose life had been so rounded and complete with labors of practical beneficence.

Dr. Skiff was born at Chicopee, Massachusetts, on November 5, 1851. He had been, since 1894, Director of the Field Museum of Natural History at Chicago. Few individuals of his generation, in this or any other country, had done more for practical education. He was a heartening, vitalizing stimulus to everyone that came into personal contact with him—one

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of those rare and gifted spirits that make the world really better. The field of his best labors, expositions, is a peculiar one. They are organized, operated for a few months, and then pass from sight. But their influences get into the arts of civilized life and are propagated as part of its development, producing cumulative effects for the benefit of generations ignorant of the origin. It is in such service to humanity that Dr. Skiff's work will live through unnumbered years.

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TRANSFERRING THE EXPOSITION AUDITORIUM TO THE CITY OF SAN FRANCISCO, DECEMBER 30, 1915

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CHAPTER XL

THE CORPORATION DISSOLVED

AFTER a little over ten years and four months of life, and one of the most amazing accomplishments in the whole history of corporate enterprise, the Panama-Pacific International Exposition Company, as a corporation, was formally dissolved in Judge Dunne's department of the Superior Court on August 1, 1920, on petition of the Company following a resolution of the stockholders. It had been incorporated March 22, 1910. In pursuance of the stockholders' resolution the members of the Executive Sub-Committee, which had been practically the governing body of the Exposition for most of the operating and all the post-Exposition season, namely, President Moore, Vice-President Hale, and Directors Britton, Henry T. Scott, and Taussig, were appointed by Judge Dunne trustees in liquidation and dissolution to wind up the last affairs of the Company and distribute the remaining assets.

End of the Company

In addition to turning over to the Alien Property Custodian of the Department of State certain paintings, statuary, and objects of art belonging to enemy alien exhibitors, who had been unable to receive them back direct on account of the war, the main business of the last few months of the Exposition Company's existence consisted of making the final settlement with the State Exposition Commission and seeing the Marina project as far along as possible. Some details of this matter we have already recited, and it remains only to record an outline of the terms of settlement with the State Commission, in which the Marina business was included.

A formal agreement between the Company and the Commission was drawn up and executed in February, 1920. It recited the holding of the Exposition and the clearing of the site, and after finding that the net returns, income, profits, and holdings of the Company came to $1,229,944.45 (counting at par $462,600 worth of Liberty bonds), and after finding that the State's five-elevenths of it, under the finding of the Supreme Court, would come to $559,065.65, it declared that the Company agreed to deed to the State the Marina property, worth about $469,000, cancel a certain debt of the Commission to the Company arising out of the administration of the California

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Building after its transfer to the Commission, pay $50,000 in cash, which would about even the account, and call it square on both sides. The land to be conveyed to the State represented ten blocks of the Marina. It was planned to sell the remaining four blocks necessary to that project to William H. Crocker as trustee in payment of his stock account, to be conveyed by him to the City and County of San Francisco for permanent park purposes. So, in this manner the title to the entire Marina would be in the public, it being the State Commission's intention to help induce the State to cede its part of the Marina lands to the city of San Francisco.

Following this agreement the deed was formally delivered to Matt I. Sullivan, Chairman of the State Commission, on March 15, together with a check for $50,000 and an acquittance of the $38,078 which the State owed the Exposition for administration on the California Building; and then the stockholders' meeting was held pursuant to the legal call, to authorize the petition for a judgment dissolving the corporation, and for the appointment of the trustees, as recited above. There remained for the Trustees to disburse something over $600,000, but part was in the form of real estate that still had to be marketed before the proceeds could be divided. At present writing this process is going on, and gives promise of being finished at an early date.

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EPILOGUE

LET us borrow from the records of eloquence a retrospective line and a personal point of view, and endeavor to recall some picture of the results of this work of organizing, assembling, housing, and adorning a panorama of the labors and aspirations of civilization in the early years of the twentieth century.

"The past rises before us as a dream." We see domes like the Canopy, a profusion of green domes. We see towers, red and golden in the sun, on which angels poise. We see one tower mounting in stages toward Heaven, and on those stages priests with psalters, statesmen with treaties, adventurers with drawn swords, mounted conquerors with their triumphant banners. At the summit is a belted orb; and the whole flashes with blue and green and ruby light from a hundred thousand trembling gems.

We see a mission church of California, and a basilica of ancient Rome. We see the noblest forms in which matter can be molded—column and console, plinth and pilaster, arch and architrave and sculptured frieze, rising from a reedy lake and doubled, for bounty, in its depths.

We see the wall of the enchanted city rising behind tall trees and forest growth; tiled against the rain, its portals wide, inviting, beautified with a hundred forms of sculpture and of painting. We see the palaces within, sheltering, not the tinsel pomp of kings, but the fruits of the labor of the benefactors of the race: of the inventor, the artisan, the discoverer, the publisher, the producer of the myriad forms of wealth that minister to the needs of men.

We see multitudes pouring through the gates and wandering amid magician's gardens, where lilies bloom, and hyacinths, where tulips spring from the odorous earth, and rhododendrons flower into airy ponds of color; where statues hide among the trees, and in the open spaces fountains gush, filling the air with cooling mists from the rush of gray-green waters.

We see broad courts with pleasant pools, with palms, with fruits, with growing things, with colonnades and cloisters glorified by the brightest visions art can paint. And always the courts, the colonnades, the palaces, the roads between, are thronged with people.

We see again the conclaves of great societies, the meetings of scholars, of physicians, of philosophers. We hear the mighty organ exalt their work with music. We hear the truths they give to Man.

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We see the wide arches of the Rising and of the Setting Sun, with their coffered vaults, their strong pillars, their crenelated tops, and above them the great sculptures portraying the globe-encircling march of the Nations, the Nations of the East and the Nations of the West: the elephant, the prince, the warrior, the slave, on the one side; on the other the plodding oxen, the prairie schooner, the lean pioneer, the frontier mother, and the Angel of Progress. We see them lifting into the sky, exalted, half divine, an apotheosis.

Again, we see horsemen moving in columns, and men from camps, men from ships, armed, sworded, uniformed, marching with the tread of the courage of youth, to the throb of drums and the brazen song of horns, under the Arch of the Setting Sun, past the sunken gardens of the Court of the Universe, out through the Arch of the Rising Sun, the representatives of the might of a free nation and the defense of human liberty; and as their colors go by we see the Vice-President of the United States uncover. Before a panoply of flags he dedicates the garnered wonders of art, of science, of literature, of philosophy, and of faith to the service and uplifting of Man.

And we see them serving. We see men drawing new knowledge from old wells of thought, we see them gathering from those things that have been well done the art of further doing, we see them learning better how to live.

It is past—but it is not gone. While humanity lives on the earth, the influence of these things cannot die.

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THE MISSION CLOISTER, CALIFORNIA BUILDING

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APPENDIX

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PART I OF APPENDIX

RULES OF THE DIVISION OF WORKS

GENERAL REQUIREMENTS

PART I

SECTION 1.—GENERAL STATEMENT: These rules and regulations are intended to govern the erection and use of all buildings and structures, the treatment and use of grounds, the treatment and use of roads and paths, the regulation of traffic within the grounds, the installation and use of plumbing, sewers, domestic and high pressure water, electricity, gas, steam, compressed air, and any other utility which may be installed or used by or with the consent of the Exposition Company, also the collection and disposal of all waste material and garbage. The President of the Exposition may waive, temporarily suspend, or change without notice any of the provisions of these Rules and Regulations.

SECTION 2. DEFINITIONS: The following words or pronouns used in their stead occurring in these rules and regulations shall have the respective meanings here given:

(A) *Exposition:* Indicates the Panama-Pacific International Exposition Company, as well as the Exposition itself.

(B) *President:* Indicates the President of the Exposition.

(C) *Director in Chief:* Indicates the Director in Chief of the Exposition.

(D) *Director of Exhibits:* Indicates the Director of Exhibits of the Exposition, and his representatives, whose powers are limited by the particular duties intrusted to them. The Director of Exhibits is the Executive head of the Division of Exhibits.

(E) *Director of Concessions and Admissions:* Indicates the Director of Concessions and Admissions of the Exposition, and his representatives, whose powers are limited by the particular duties intrusted to them. The Director of Concessions and Admissions is the executive head of the Division of Concessions and Admissions.

(F) *Director of Works:* Indicates the Director of Works of the Exposition, and his representatives, whose powers are limited by the particular duties intrusted to them. The Director of Works is the executive head of the Division of Works.

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(G) *Chief of Construction:* Indicates the Chief of Construction of the Exposition, and his representatives, whose powers are limited by the particular duties intrusted to them. The Chief of Construction is the principal assistant of the Director of Works.

(H) *Participants:* All persons, firms, corporations, and governments to whom a permit has been granted to erect, alter, or use the whole or any part of a building or structure or any part of the grounds are hereinafter termed participants and classified as follows:

1. Concessionaires: Indicates persons, firms, and corporations to whom a building site, or floor, or ground space has been allotted, or concession (contemplating paid admissions or the sale of merchandise) granted by the Exposition.
2. Exhibitors: Indicates all persons, firms, and corporations to whom Exposition building floor space has been allotted, and exhibit privileges (contemplating free admission) granted by the Exposition.
3. Special Exhibitors: Indicates all persons, firms, and corporations to whom a building site or ground space has been allotted and exhibit privileges (contemplating free admission) granted by the Exposition.
4. Government: Indicates the United States Government.
5. Foreign Governments: Indicates any Foreign Government.
6. State: Indicates any State of the United States.
7. Territory: Indicates any Territory of the United States.
8. City: Indicates any City of the United States.

(I) *Contractor:* Indicates any person, firm, or corporation employed by any Participant in the erection or alteration of any building or structure, in the treatment of grounds, roads, and paths; or in making plumbing, sewer, domestic and high pressure water, electric, gas, steam and compressed air, or other installations or connections within the Exposition Grounds.

(J) *Exposition Building:* Indicates any building or Exhibit Palace with free admission erected by the Exposition.

(K) *Concession:* Indicates any building or structure erected by a concessionaire or space with paid admission, or in pursuance of which merchandise is sold.

(L) *Special Exhibit Building:* Indicates any building, with free admission, erected by a special exhibitor.

(M) *Exhibit Space:* Indicates the floor or ground space allotted to an exhibitor or a concessionaire.

(N) *Government Building:* Indicates any building or structure erected by the Government.

(O) *Foreign Building:* Indicates any building or structure erected by a Foreign Government.

(P) *State Building:* Indicates any building or structure erected by a State.

(Q) *Territory Building:* Indicates any building or structure erected by a Territory.

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THROUGH A MOORISH ARCH

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(R) *City Building:* Indicates any building or structure erected by any City of the United States.

(S) *Pavilion:* Indicates any building or structure erected by the Government, or a Foreign Government, or by any State, Territory, or City.

SECTION 3. EXHIBIT PRIVILEGES: Building sites, exhibit privileges, concessions, or floor or ground space must be allotted by the Exposition before a permit to do work of construction of any sort within the grounds of the Exposition will be issued.

SECTION 4. PERMITS: Before a building or structure may be erected or altered, or gas, electric, steam, compressed air, water, or other such installation made, or any other work done on the Exposition Grounds, or connections made with any Exposition utility, plans and specifications of the proposed work must be submitted to, approved by, and permit for doing such work obtained from the Director of Works. No alterations may be made in approved plans or specifications or in existing improvements of any sort without the written permission of the Director of Works. Before proceeding with construction, separate permits shall be secured for each building or structure, for each mechanical trade herein noted, for alterations of any sort, or for connections with any Exposition utility. The various permits to be obtained are hereinafter defined and facsimiles of permit forms shown.

SECTION 5. PLANS AND SPECIFICATIONS: Harmonious architectural and uniform engineering schemes for all improvements on the Exposition Grounds are desired by the Exposition. It is intended that all buildings, structures, and landscape treatment shall enhance the beauty of the Exposition as a whole.

It is further proposed to standardize the engineering work and to have the various structural and mechanical features necessary for Participants produced as economically as possible. Standard and uniform connections with the various utilities are required so that all service may be cheaply and satisfactorily maintained. To attain these ends, to avoid delay, and to expedite the work, all Participants contemplating construction of any sort are requested to submit to the Division of Works preliminary sketches of proposed buildings or other structures and of landscape treatment, descriptions or rough lay-outs of plumbing, of sewers, of domestic and high pressure water, electric, gas, steam, and compressed air installation or any other proposed construction before preparing final plans and specifications.

All preliminary sketches, lay-outs, and descriptions will be carefully examined and approved, or such changes, modifications, and revisions as may be deemed necessary will be recommended. Final plans and specifications may then be prepared without loss of time. They shall describe and show in detail all of the proposed construction. All specifications shall be on standard size letter paper. Plans may be drawn on sheets of convenient size, but all plans on any one piece of work shall be on sheets of the same size.

All plans and specifications must be submitted in duplicate to the Director

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of Works. After approval or such revisions, modifications, and changes as may be necessary are made, one set will be returned to the applicant.

SECTION 6. APPLICATION: (A) Any Participant or Contractor desiring to obtain a permit to erect or alter any building or structure, or to make gas, electric, steam, compressed air, water, or other similar installations, or to make alterations to any existing work, or to do any work of any sort within the Exposition Grounds, or to connect with any of the Exposition utilities, shall first file with the Director of Works, on the printed form furnished, an "Application for Permit," and shall pay the charge for each such privilege as herein provided.

(B) With the application there shall be filed a statement from the Director in Chief, the Director of Exhibits, the Director of Concessions and Admissions or other executive authority of the Exposition, stating that exhibit privilege or concession has been obtained and which authorizes the proposed work. If the work is to be done in connection with a previously authorized privilege, reference may be made to the previously filed statement covering the authorized privilege in question.

(C) If the application is for a construction permit, the applicant shall deposit with the Director of Works at the same time, two complete sets of plans and specifications of the proposed work, as herein required.

SECTION 7. BONDS: (A) When plans and specifications have been approved, a surety bond, to be approved by the Exposition, shall be filed with it, guaranteeing the faithful execution and completion of the work contemplated in accordance with these Rules and Regulations, and indemnifying the Exposition against the claims of all persons for damages for injuries to person or property, against all claims for labor or material used in the work, against all loss or damage for injuries to the Exposition or any of its property, and guaranteeing that on the removal of any structure, or the relinquishment of space after the close of the Exposition, all wreckage and débris shall be removed and the space left as nearly as practicable in its original condition.

A cash deposit will be accepted in lieu of a surety bond, when such, in the opinion of the Director of Works, will serve the purpose.

(B) No grading, tearing up, or laying of roads or paths, plumbing, sewering, domestic or high pressure water supply piping, electric work, gas fitting, steam fitting, compressed air piping, or any other work will be permitted until after a surety bond approved by the Exposition shall have been filed with it, guaranteeing the faithful performance of the proposed work in accordance with these Rules and Regulations, and indemnifying the Exposition against the claims of all persons for damages for injuries to person or property, against all claims for labor or material used in the work and against all loss or damage from injuries to the Exposition, or any of its property.

A cash deposit will be accepted in lieu of a surety bond when such, in the opinion of the Director of Works, will serve the purpose.

(C) Permit will be issued for the erection of a building or structure by a

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City, State, Territory, Foreign, or other government, upon its authorized representative entering into a written agreement with the Exposition, specifying the time when said building or structure will be removed or sold after the close of the Exposition and providing that, when any such building or structure shall be removed, all débris caused by said removal will be cleaned away and the site left as far as practicable in its original condition.

SECTION 8. REGISTRATION: No work shall be done by any contractor, nor by any other person, in connection with the installation, alteration, or repair of any fixtures or appurtenances of any building, structure, or utility, who has not registered his name and place of business and received a contractor's permit. Before a contractor's permit will be issued to a registered contractor, the contractor shall file a bond with the Director of Works conditioned as hereinbefore required.

SECTION 9. SURVEY: Sufficient surveys defining the boundaries of each allotment of ground space will be made by the Exposition. All other surveying of the site of each building or structure shall be made by the Participant, or the contractor doing the work.

SECTION 10. IMPROVEMENT OF SITE: Each Participant will be required to do all the work necessary for the preparation and improvement of the ground space allotted. This includes the clearing, cleaning, and grading of the entire space allotted and must be in accordance with the grades and directions furnished by the Director of Works. In every case where the building does not cover the entire site awarded, the Participant shall improve the site in a manner satisfactory to the Director of Works, and shall be responsible for any damage that may occur to trees, shrubs, or plants that may be on the site.

SECTION 11. MAINTENANCE OF PROPERTY: Each Participant will be required to maintain the allotted space, buildings, structures, piping, conduits, wiring, fixtures, and apparatus erected or used by him in safe and perfect condition until the close of the Exposition. If any building or other structure or any appurtenance thereof, or used in connection therewith, in the opinion of the Director of Works, is not kept in satisfactory condition, the building may be closed, or further use of any such structure or appurtenance may be discontinued at the option of the Exposition.

SECTION 12. REPLACEMENT OF IMPROVEMENTS: In case of damage to any building or structure (excepting Exposition buildings) through fire or other cause, the Participant owning or occupying the building will be required either to repair the damage or to construct a suitable screen, which will hide the damage and preserve a harmonious appearance of the buildings and grounds. In case of similar damage to any exhibit, booth, or enclosure in one of the Exposition buildings, it shall be either repaired or screened to the satisfaction of the Director of Works. Upon failure of any Participant to comply with this rule, the Exposition will, after forty-eight hours' written notice posted upon the space in question, proceed to erect a suitable screen and will collect the cost of same from the Participant.

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SECTION 13. CHANGE IN EQUIPMENT: Any consumer desiring to make changes in piping or in equipment covered by his contract for service from any utility of the Exposition, must first have change approved by the Director of the division in which the work is to be done and then obtain a written permit from the Director of Works.

SECTION 14. EXCLUSIVE PRIVILEGES: The sale of water, gas, electric energy, steam, and compressed air, the collection of garbage and similar general utilities are exclusive privileges of the Exposition and shall not be supplied by any other person without the written permission of the Exposition.

SECTION 15. RIGHT OF WAY: The Exposition reserves the right to run its service conduits and wires, of various sorts, over or under or through any building or structure erected by any Participant, and to install in any building built or occupied by a Participant, such apparatus as may be required for the installation and operation and measurement of any utility system of the Exposition.

SECTION 16. CONTRACT FOR SERVICE: Before any contract will be made for service, a Certificate of Inspection of the place where service is to be rendered shall be procured from the Director of Works. Upon such Certificate of Inspection and before service connection will be made with any utility of the Exposition, the intending consumer shall enter into a written contract with it for the service desired. All costs of construction and any indebtedness of the consumer to the Exposition must be paid before any such service contract is made. Intending consumers must give forty-eight (48) hours' notice before they require service of water, gas, electricity, steam, or compressed air, and at least twenty-four (24) hours' notice for other general service required.

SECTION 17. SPECIAL CONTRACTS: The rates and terms given hereinafter for water, gas, electric, steam, or compressed air service, for the collection of garbage and transportation of supplies within the Exposition Grounds, are for the period of the Exposition and do not contemplate pre-Exposition or post-Exposition service, which will be subject to special agreement.

The Exposition reserves the right to relieve any Participant from paying construction fees, to change rates or rules to meet conditions imposed by special apparatus or service and upon the recommendation of the Director of a Division to furnish gratuitously to exhibitors or to others a limited amount of service from any Exposition utility, for the operation of machines or processes or for machinery which is used in the service of the Exposition.

SECTION 18. DEPOSIT: The Exposition will require a deposit before utility or general service will be rendered. The deposit estimated by the Director of Works as sufficient to cover one month's service from the utility to the consumer, shall be paid at the time the contract for service is made. The amount deposited will be returned or credited to the account of the consumer at the expiration of his contract, less such damage, if any, suffered by the Exposition by any breach by the consumer of his contract. The minimum deposit shall be $5.00.

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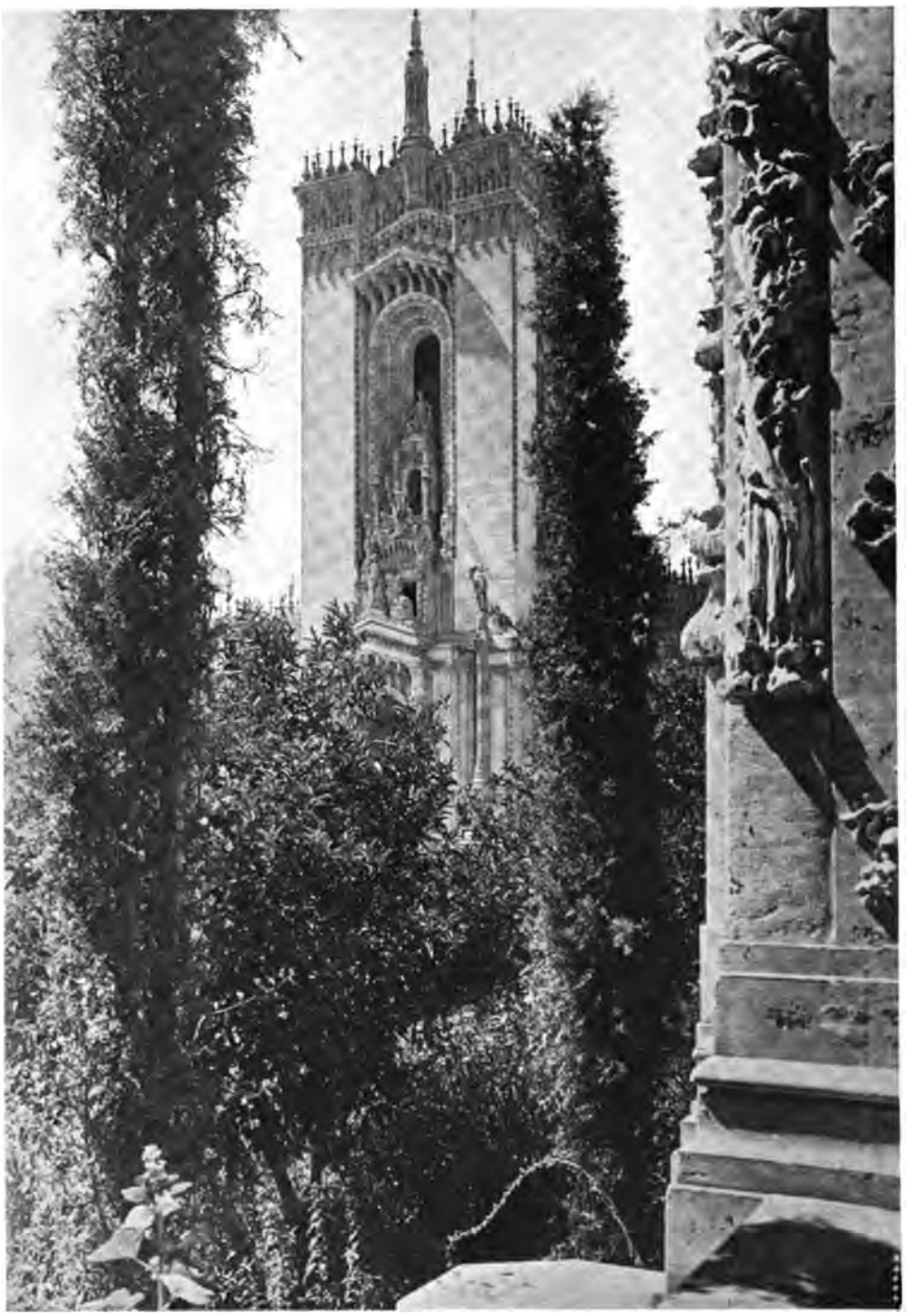

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SECTION 19. PAYMENT: All permit, construction, and inspection fees must be paid on issue of permits, doing of the work, and issue of inspection certificates, respectively. All bills for service must be paid within ten days from the date rendered, otherwise service will be discontinued and the deposit, or so much thereof as may be necessary, applied to the consumer's debt to the Exposition, but this shall not be a waiver of any other claims of the Exposition against the consumer. A charge of $5.00, payable in advance, will be made for the resumption of any service discontinued under the terms hereof. The above and all other payments to the Exposition must be made to its Comptroller and his receipt taken therefor.

All bills for service from utilities paid within five days after presentation will be subject to a discount of 5%.

SECTION 20. CHANGE IN DEMAND: Any consumer desiring to increase his demand upon any utility of the Exposition, or to make any change in the connected load covered by his contract, must first obtain a written permit from the Director of Works.

SECTION 21. INTERRUPTION OF SERVICE: The Exposition reserves the right to shut off service of any utility for non-payment of bills, for necessary repairs and connections, and in case of fire or other casualty, and also to prescribe, locate, and limit the size of all service connections and the hours of service of any utility during the pre-Exposition, Exposition, or post-Exposition periods.

SECTION 22. DAMAGE: The Exposition will not be responsible for damage in case the service of a utility is shut off for any reason, or in case of damage caused by broken pipe or conduits.

SECTION 23. DIRECTION OF WORK: The erection of buildings and structures, grading, construction of roads and paths, plumbing, installation of sewers and water pipes, electric wiring, installations for light, power, gas, compressed air, or steam, heating systems and all other work shall be done under the direction and supervision of the Director of Works or his authorized representatives.

SECTION 24. INSPECTORS: The authorized inspectors of the Division of Works shall be at all times provided with safe and easy access to all parts of the works for the purpose of inspecting the installation and use of utilities, both during construction and during occupancy. No person or persons except authorized inspectors or agents of the Division of Works shall interfere with or operate any of the appurtenances connected with any Exposition building or utility without a permit signed by the Director of Works or his authorized representative. This permit must be shown upon the request of any authorized representative of the Exposition.

SECTION 25. CONDEMNATION OF WORK: All work constructed in a manner other than that indicated by the drawings and specifications approved by the Director of Works at the time of issuing construction permit, will be condemned and shall be reconstructed in the proper manner at the expense of the Participant. Repeated neglect to carry out the requirements of the drawings and

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specifications will be considered as evidence of bad faith and sufficient cause for cancellation of permit.

SECTION 26. CERTIFICATES OF INSPECTION: All buildings, structures, plumbing, sewer, and drain connections, installations for domestic and high pressure water supply, light, power, gas, compressed air, and steam, and all other work will be inspected by the authorized inspectors of the Division of Works. On completion of the work for which any permit has been granted, a written Application for Inspection must be made on the printed forms furnished, and filed with the Director of Works. After inspection has been made by the proper inspector of the Exposition, a Certificate of Inspection will be given, which will be a prerequisite in applying for service connection with any utility of the Exposition.

SECTION 27. SANITARY PROVISIONS: No outside closets, out-buildings, or back yards will be allowed except under a special permit from the Director of Works. All Contractors shall provide for their employees the necessary and proper temporary toilet conveniences, which shall be installed and maintained in accordance with the instructions of the Director of Works.

SECTION 28. RUBBISH: All construction rubbish and refuse must be removed from the building and grounds at the expense of the Participants and Contractors, and shall be disposed of as may be ordered by the Director of Works.

No open fires will be allowed except under special permit from the Director of Works.

Approved metal receptacles to be emptied daily shall be provided by Contractors for all refuse and ashes. No oily waste, paint rags, or workmen's overalls shall be allowed over night in any building.

SECTION 29. POWER: Electric energy must be used for power purposes whenever possible in the opinion of the Director of Works. The use of steam driven or internal combustion engines will not be allowed during construction, except by special permission in writing from the Director of Works. If steam equipment is permitted, such equipment used on the work shall be fitted for use of oil fuel and under no circumstances shall other fuel be used without written permission. If such permission is given, all equipment requiring other fuel than oil must be provided with spark arresters and otherwise safeguarded as ordered by the Director of Works.

SECTION 30. ILLUMINATION: Any Participant not located in an Exposition building will be required to provide and maintain ornamental illumination for the exterior of his building or structure. The type and number of lamps used and their location shall be satisfactory to the Director of Works. Exterior lights shall be kept lighted during all periods that the decorative lighting of the Exposition buildings is turned on.

SECTION 31. PUBLIC SAFETY: The use of buildings for any purpose or in any manner dangerous to the public, to adjoining property, or to the welfare of the Exposition will not be allowed. Carelessness in the management of fires, of

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electric wires, or of moving or operating apparatus will be sufficient cause for the cancellation of all permits previously granted.

SECTION 32. EXPLOSIVES: The use or storage of explosives, dangerous drugs, fireworks, calcium carbide, or other inflammable substances or articles will not be allowed on the grounds, except by special permission in writing from the Director of Works.

SECTION 33. FLOOR OIL: Floor oils for laying dust shall not be used by Participants except on written permission of the Director of Works, and any mops or rags used in applying the same shall be removed from the building immediately after they are used and shall be kept outside of buildings. Sweeping compounds must contain only non-inflammable substances.

SECTION 34. FABRICS USED FOR DECORATIONS: All fabrics and materials used for hanging decorations and stage scenery shall be treated with an approved fire retardent except when written permission is obtained from the Director of Works for its omission.

SECTION 35. CELLULOID AND SIMILAR SUBSTANCES: No work in celluloid or in other similar substances will be permitted unless a special written permit is obtained from the Director of Works.

SECTION 36. GASOLINE, NAPHTHA, BENZINE, ETHER, ETC.: Exhibits using any of these or similar inflammable substances in quantities over one quart, must be in separate buildings or in a building devoted to all exhibits of such materials, or exhibits in which the same are used. All such inflammable substances must be kept in safety cans or devices of approved pattern. The use of gasoline, naphtha, benzine, or other highly inflammable oils is prohibited unless special written permit issued after an inspection is obtained. Plumbers' and tinners' furnaces and torches, gasoline soldering irons, etc., must be inspected and carry an inspection tag. They shall not be filled inside of any building, except a contractor's shanty. Paint containing naphtha or benzine shall not be mixed inside of any building, except a contractor's shanty. Contractor's shanties must be located over thirty (30) feet from any building. Paint containing naphtha or benzine shall not be stored in the buildings and only the supply necessary for one day's work shall be taken inside of a building, and this shall be kept in cans of capacity of five gallons or less, or in pots used by workmen.

SECTION 37. FUELS AND LIGHT: In all cases, except as mentioned in Section 40, Part II, gas or electricity must be used for lighting, heating, and culinary requirements unless a special written permit for the use of other light or fuel is obtained from the Director of Works. Wood may be used in open fireplaces for which proper Certificates of Inspection have been issued. Charcoal shall not be used as a fuel in any portable furnace, heater, or salamander.

SECTION 38. SMOKING: No smoking will be allowed in any building or structure during its erection.

SECTION 39. STREETS AND ROADS: The use of the Exposition streets, avenues, or public places for any purpose other than travel and transportation will not

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be allowed except upon written permission from the Director of Works. Further rules are to be observed, as hereinafter noted, to preserve the roadways and paths and to protect those who may visit the grounds.

SECTION 40. TRENCHING: All material from trenches shall be placed so as to cause no inconvenience. Lights and guards must be maintained along the lines of trench during the progress of the work to guard against accidents. In back-filling, the earth shall be carefully rammed into one-foot layers, one rammer being employed to each shoveler, and shall be flooded with water if required. All sod, paving, or other surfaces removed must be replaced in as good condition as they were before being disturbed.

SECTION 41. VACANT LAND: All unoccupied portions of space allotted will be used by the Exposition for such purposes as it may elect.

SECTION 42. LETTERING: The Exposition has adopted a standard style of lettering for signs of all descriptions which are to be placed outside of Exhibit Palaces, Pavilions, and Buildings. The standard style is to be used by all Participants unless otherwise allowed by written permission from the Division of Works. Samples of lettering may be obtained from the Division of Works.

SECTION 43. TIME LIMIT: All construction permits expire on February 1, 1915. If so ordered by the Director of Works, any work which is incomplete on the above date shall be taken down and all materials, rubbish and débris removed from the Exposition Grounds, and the site restored to its original condition, at the expense of the Participant and Contractor in default.

SECTION 44. EXHIBIT PALACES: The Chief of each Department, under the direction of the Director of the Division of Exhibits will be in sole authority over the palace of his department and of the grounds on which the exhibits of such department are located.

BUILDINGS AND STRUCTURES

DETAILED REQUIREMENTS

PART II

SECTION 1. GENERAL: These Detailed Requirements, and all persons operating hereunder, are subject to the provisions of the preceding General Requirements.

SECTION 2. PLANS AND SPECIFICATIONS: All drawings, plans, and specifications for buildings and structures shall be submitted to and approved by the Director of Works, and work shall be done subject to his approval.

Specifications shall describe the general construction, roofing, plumbing, heating, lighting, painting, exterior treatment, and all other work which is contemplated in any proposed building or structure.

Plans shall include the following:

(A) Plot plan, showing the space allotted, the location of building or struc-

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ture thereon, the grading of space and finished grade lines, the location of adjacent sewer, domestic water supply, gas, electric, and other conduits of the Exposition and proposed connections.

(B) Floor plans, showing size, shape, and subdivisions of building or structure, together with the location of plumbing, heating, and lighting fixtures, standpipes, hose, hose racks, and other appurtenances. All dimensions and distances shall be plainly given in figures on said plans.

(C) Elevations, showing the design of all façades of the building or structure, giving the height of cornices, towers, and other features, the size and location of all openings and all other necessary information to portray definitely the finished appearance of the proposed building or structure.

(D) Longitudinal and cross-sections through the building or structure, showing the method of construction and sizes and kinds of all materials used.

(E) Detail drawings to a large scale, showing the main architectural features of the exterior of building or structure.

SECTION 3. CONSTRUCTION FEES: When the drawings, specifications and bond have been approved and accepted, and payment of the construction fee by Participant's contractor has been made, the Director of Works will issue written permission for the work to proceed. The amount of said fee shall be based on the cost of the building or structure as follows:

For a building or structure costing one thousand ($1000) dollars or less, a fee of one dollar will be charged, and for any building or structure costing more than one thousand dollars, an additional sum of fifty cents must be paid for each one thousand dollars, or fraction thereof, of cost in excess of one thousand dollars. No fee for any one building will exceed fifty ($50.00) dollars.

SECTION 4. TYPE OF CONSTRUCTION: Buildings or structures may be of any of the usual forms of construction, but it is assumed that the majority of those erected by Participants will be of wood. Such buildings will be governed by the following regulations:

Participants desiring to erect other types of structures will be informed of the requirements upon application to the Director of Works.

SECTION 5. LOADS: In general all buildings or structures to be erected by Participants must be designed to carry, with the usual safety factors provided, the greatest loads to which they will ever be subjected. All dead loads must be allowed for and no building or structure shall be designed for live loads of less than 75 pounds per square foot for the floors, and 15 pounds per square foot for the roofs; and the walls and roofs thereof shall not be designed for a horizontal wind load of less than 20 pounds per square foot. No roof, however, shall be designed for a total dead, live, and wind load of less than 35 pounds per horizontal square foot.

SECTION 6. ALTERATIONS TO EXPOSITION BUILDINGS: Statement of load limits for which Exposition buildings are designed may be had by applying to the Director of Works. If exhibitors or concessionaires wish to support greater

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loads, they must make whatever alterations or additions to floors and foundations of Exposition buildings as are necessary to safely and properly support the load contemplated. Under such circumstances, exhibitors or concessionaires desiring to alter in any way any part of the foundation or construction of any Exposition building or structure must make application through the Director of Exhibits or the Director of Concessions, and obtain permit from the Director of Works.

SECTION 7. FOUNDATIONS: Foundations may be of wood, but all timbers used as mud sills or footings shall not be less than three (3) inches thick, of good sound material. All débris, roots, and loose soil must be removed and footings given a level, firm bearing on solid earth. Foundations must be supported on or bridged across soft spots in a manner satisfactory to the Director of Works. Information as to the type of foundation, whether of piles or spread footings, and allowable loads on piles or allowable soil pressure and logs of typical borings will be furnished to the Participant on application to the Division of Works.

SECTION 8. FRAMING: No studs shall be used less than 2 x 4 inches or spaced over 18 inches on centers. Joists shall be doubled under all partitions running parallel with same and around all floor openings. All openings in partitions shall be framed with double studs and those four (4) feet wide and over shall be substantially trussed overhead. Woodwork must be kept two (2) inches away from all smoke or heating flues. All stairways, hatchways, and other floor openings shall be protected by substantial railings. All joists shall be bridged at least once in every six feet.

SECTION 9. WALLS: The exterior of all frame buildings shall be neatly plastered or covered with some non-combustible material acceptable to the Director of Works. The plaster may be applied on ordinary wood lath, Byrkitt sheathing or sheathing lath, plaster board, or metal lath. When sheathing lath is not used the building shall be sheathed with one (1) inch thick boards and lathed with expanded metal lath, or plaster board or its equivalent, nailed directly to boards and plastered with one heavy coat of acceptable plaster.

SECTION 10. ROOFS: All roofs shall be of tongued and grooved, or shiplap sheathing covered with felt and gravel or an approved brand of prepared roofing treated with finished top surface of asbestos, or metal, or superior materials, approved by the Director of Works. No wooden shingles will be permitted as a roof covering.

SECTION 11. CHIMNEYS AND FLUES: Special precaution must be taken in the construction of all smoke flues for boilers, stoves, fireplaces, and heating systems. All installations of this character must fully comply with the requirements of Sections, 12, 13, 14, 15, 16, 17, 18, and 19, Part II, of these Rules and Regulations.

SECTION 12. All chimneys and flues hereafter constructed, except as provided in Sections 13, 14, and 15 hereof, referring to patent chimneys, shall be of brick

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or stone or may be of concrete when in concrete walls; their enclosing walls shall not be less than four (4) inches thick, and shall, if less than eight (8) inches thick, be lined on the inside with well-burnt clay or terra cotta pipe not less than ¾ of an inch thick for flue linings of the following inside dimensions: 3 x 7 inches, 3 x 11½ inches, 7 x 7 inches, and 7 x 11½ inches, and one inch thick for flue linings of the following inside dimensions: 2½ x 15 inches, 6½ x 15 inches, 11 x 11 inches, 11 x 15 inches, and 15 x 15 inches. Said lining shall start from the bottom of a flue or the throat of a fireplace, be continuous to the top of the flue, and shall be built in first and bricked around as carried up. Flues, where lining is not required by these Rules and Regulations, shall have the joints struck smooth on the inside, and, if less than eight (8) inches thick, shall be smoothly plastered for the entire height on the outside.

No smoke flue shall be less than 7 x 7 inches in the clear, and such sized flue shall have but one inlet; for two inlets the flues shall not be less than 7 x 11½ inches in the clear; for three inlets not less than 6½ x 15 inches in the clear, and for a larger number of inlets the size shall be increased in the same proportion. Flues larger than two hundred square inches and less than five hundred square inches area shall be surrounded by walls not less than eight inches thick; flues larger than five hundred and less than one thousand square inches area shall be surrounded by walls not less than twelve inches thick to a height of fifteen feet above the inlet, and eight (8) inches thick the remaining height; flues larger than one thousand square inches shall be proportionately increased in size and shall be lined with fire brick for at least twenty feet above the inlet.

Bakery oven flues shall not be less than 12 x 12 inches in the clear and shall be surrounded by brickwork not less than eight (8) inches thick.

The inside four inches of all boiler flues for boilers of over twenty-five horse power shall be of fire brick, laid in fire mortar, for a distance of twenty-five feet in any direction from the source of heat.

Chimneys and stacks connected with steam boilers shall extend not less than ten feet above the woodwork of the roof (under written permission only), or any adjacent roof, and if sawdust, shavings, or wood are burned, shall extend twenty feet above such roofs and be provided with spark arresters. Spark arresters shall be placed upon all chimneys and stacks whenever, in the opinion of the Director of Works, such are deemed necessary for the safety of property.

Chimneys and flues from boilers, restaurants, and hotel ranges, bakers' ovens and similar unusually hot flues, shall have the outside exposed throughout the height of the room in which connection therewith is made, and if plastered, shall be plastered directly upon the bricks.

All chimneys having a greater flue area than two hundred and sixty (260) square inches shall be carried up at least ten feet above the highest point of the roof of the building of which they form a part, and ten feet above the highest point of any roof within fifty feet of such chimney.

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Where a smoke pipe is to enter a chimney or flue a tile thimble not less than 5/8 of an inch thick shall be placed as construction progresses. Thimbles shall be surrounded by four inches of brickwork brought out flush with furring and shall extend to the face of the plastering and not be nearer than six inches to any wood, lath, and plaster. No tile pipe shall be used as a smoke pipe in connection with such thimbles.

Chimneys not part of a wall shall not be built upon any floor or beam of wood, but shall be built from the ground up, and shall not increase in size from the foundation. No chimney shall be corbeled out more than eight inches from a wall and corbeling shall consist of at least five courses of brick, but no corbeling shall be more than four inches in twelve-inch walls. Offsets for reducing the size of chimneys shall not be greater than one inch to each course.

No joist or girder shall be supported on the walls of any chimney or flue, and no woodwork shall be placed nearer than two inches to the outside face of, or within seven inches of the inside of any smoke, air, or other flue.

All wood joists shall be trimmed away at least two inches from any smoke, air, or other flue; the trimmer beam shall not be less than eight inches from the inside of the flue, and four inches from the outside of a chimney breast.

Chimneys built outside of frame structures, or in light wells thereof, shall be well anchored, at intervals of not less than ten feet, to the stud walls.

All chimneys and flues shall be properly cleaned and all rubbish removed, and same left smooth on the inside on completion of the building.

SECTION 13. All fireplaces and chimney breasts where mantels are placed, except as provided for patent chimney fireplaces, whether intended for ordinary fireplaces or not, shall have trimmer arches to support the hearth; the arches shall be of brick, stone, burnt clay, or concrete, at least twenty inches wide, measured from the face of the chimney breast and their length shall not be less than the width of the chimney breast. Wood centers shall be removed from under trimmer arches and no timber shall be placed under any fireplaces or hearths. Hearths shall be of brick, tile, or stone.

Fireplaces shall have arched heads with an iron arch bar over the top of the opening, and not less than 1/4 x 2 1/2 inches, turned up at the ends two inches in each side of chimney breast, so as to make a perfect bond for arch.

All fireplace openings where furred with wood on face shall be surrounded by a brick rim eight inches wide projecting four inches, bonded into brickwork. The firebacks and jambs of all fireplaces shall not be less than eight inches thick, of solid masonry.

When a grate is set in a fireplace a lining of fire brick at least two inches thick shall be added to the fireback unless soapstone, tile or iron is used, and filled solidly behind with fireproof material. No mantel or other woodwork shall be exposed back of a summer piece; the ironwork of the summer

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piece shall be placed against the brick or stonework of the fireplace. No fireplace shall be closed with a wooden fireboard.

Open fireplaces shall have arched heads, which shall, whenever possible, extend to the back of the tile or marble facing.

SECTION 14. In lieu of a brick or stone chimney as hereinbefore provided, there may be erected a chimney known as a "patent chimney," for which a United States patent has been issued, and which has been approved in writing by the Director of Works. A patent chimney must be erected as required by the patent and in a workmanlike manner and in accordance with these Rules and Regulations.

All patent chimneys shall be built up from the floor on which they are used, and in no case shall a stove pipe enter the bottom of a patent chimney.

If a patent chimney be erected on the outside of a building, it shall rest on a substantial iron bracket. If supported by brackets, the bracket must be of metal and fastened to studding with bolts and nuts; screws or lag screws shall not be allowed.

When erected on the inside of a building, it shall rest on an iron plate, not less that ¼ of an inch in thickness and not less than eight (8) inches of brickwork on top of said iron plate, and shall have a smoke-proof opening near the bottom for cleaning it. All patent chimneys shall be braced every four feet of their height. All joints must be cemented and the bands covering the joints shall be made of the best number 24 iron and filled with cement to make them smoke and spark proof.

All galvanized iron used for the outside covering of patented chimneys shall be of the best number 24 iron, riveted together with rivets not more than three (3) inches apart, and may be seamed, and top and bottom of seams secured by rivets, and shall be ventilated by eight holes not less than one inch in diameter, said holes to be made close to the top of chimneys above the roof, so as to permit the escape of hot air; there shall be a space of not less than one inch between the clay pipe and the iron covering. No patent chimney shall be less than one and one-half inches from all woodwork, and the opening in the roof and in each floor and ceiling through which it passes shall be closed with an iron plate or other fireproof material, so as to prevent the passage of fire and smoke. Patent chimneys shall not be fastened to the laths or the siding of the building, but shall be securely fastened to the studding or cross-pieces with good iron straps, and in no case shall any patent chimney be suspended from any roof timber or floor beam.

No patent chimney shall have more than one inlet. All pipe used for patent chimneys shall be composed of pure calcined clay, not less than one inch in thickness. Patent chimneys built on the inside of a house shall have an opening in the partition enclosing the chimney to permit the cleaning of the same.

SECTION 15. The inside dimensions of patent chimneys shall be as follows:

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	Inches.
For fireplace of 18-inch opening	6
For fireplace of 21-inch opening	7
For fireplace of 24-inch opening	8
For ordinary stove flues	6
For French range flues	8
For steel range flues	8
For furnace flues	8 or 10

SECTION 16. All fireplaces connected with patent chimneys and all gas logs must be set on iron plates, not less than one-quarter of an inch in thickness and not less than three (3) feet nine (9) inches in length by three (3) feet in width, which shall be free from all holes. Board shall not be placed under the iron plates, which must rest on the floor joists. On the top of the iron plates there shall be one (1) inch of concrete or cement, then a course of brick, followed by the tiling or marble. The strength of the floor must not be impaired by the cutting out for the fireplace. In lieu of resting on the floor joists, said iron plates may be suspended by wrought iron stirrups of sufficient length to sustain the fireplace and patent chimney.

The brick jambs of every fireplace or grate opening shall be at least (8) inches wide, and the backs shall not be less than eight (8) inches thick, and where fireplaces come over one another on separate floors, the jamb of the lower fireplace shall be wide enough to carry the patent chimney far enough to one side of the jamb above so that the patent chimney will pass the upper fireplace in as straight a line as possible. Where bends are necessary in patent chimneys, offsets shall be used. Said offsets shall be made solid and without joints.

SECTION 17. Smokestacks shall be constructed of steel, brick, or reinforced concrete. If of steel the metal shall be not less than

⅛ inch thick for diameter up to 36 inches,

$\frac{3}{16}$ inch thick for diameter 36 inches up to 54 inches,

¼ inch thick for diameter over 54 inches,

increasing toward the bottom as determined by the weight and lateral wind pressure. If of brick, they shall be laid up in cement mortar and shall be 13 inches thick for the upper 60 feet and increasing by four inches in thickness for each subsequent 60 feet in height, and have an external batter of 1 in 30. If of reinforced concrete, the thickness shall be one-half that required for brick. All breaching shall be of at least 3/16-inch metal, lined with fire brick or covered with 85 per cent carbonate of magnesia 1½-inch section block covering.

In buildings of frame or wooden buildings, or steel and wood buildings, smokestacks of iron or steel lined with fire brick as provided in Section 12 hereof, may be used in connection with boilers and furnaces, provided same are not nearer than twenty inches to any woodwork where passing through floors, ceilings, roofs, or partitions, and are protected with a metal jacket twelve inches

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from the stack, extending above and not less than twelve inches below the joists and have metal umbrella to cover the roof opening high enough above the same to permit a free vent. Any woodwork or enclosure of such stack within four feet thereof, other than masonry or tile, shall be metal lathed and plastered or have equivalent protection. Such stacks on the outside of a building shall not be nearer than eighteen (18) inches to any unprotected woodwork or wood lath and plaster, or nearer than twelve (12) inches to any woodwork or wood lath and plaster, protected with metal extending two feet on each side of such stack.

SECTION 18. All chimneys and flues shall extend at least four (4) feet above a flat roof, and at least two (2) feet and six (6) inches above the ridge of a peaked roof, and if rising above the roof to a height equal to more than six (6) times their thickness, shall be properly anchored.

If the Director of Works deems any chimney unsafe to any adjoining or adjacent building, said chimney shall be carried up four feet above the extreme height of said building; and if an extension of iron pipe is deemed unsafe, such extension shall be of brick and terra cotta pipe.

The owner or occupant of any building shall cause the chimneys thereof to be swept as often as may be required to keep same clean.

SECTION 19. No smoke pipe, stove pipe, terra cotta pipe, earthen pipe, or other smoke flue, except as provided in these Rules and Regulations, shall project through any external wall or window, or through the roof, or any skylight of any building.

No smoke flue shall pass through any wooden partition of any building unless there is a ventilated air space at least four (4) inches around the pipe. Any smoke pipe passing through the floor or floors of any building, shall be protected by a metal casing, extending from the ceiling to at least one (1) foot above the floor, and there shall be a ventilated air space of at least four (4) inches around the said pipe.

SECTION 20. SIGNS: All signs and advertising devices must be substantially supported and will not be allowed to overhang the lot line without special permission from the Director of Works.

SECTION 21. ELECTRIC WIRING: All electric work for lighting or power installations shall fully meet the detailed requirements hereinafter for "Electric Light and Power Service," and comply with the rules and regulations of the Board of Fire Underwriters of the Pacific.

SECTION 22. GRATES AND OTHER HEATERS: Installations of gas grates, gas logs, and all gas or electrically heated appliances must be approved by the Director of Works. Gas grates, gas logs, electric heaters, and other appliances using gas or electricity for producing heat, when not placed in an approved fireplace shall have a clear and unenclosed space of not less than twelve (12) inches between them and any unprotected woodwork, wood lath and plaster, or other combustible materials, unless the same is protected by terra cotta or tile one

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(1) inch thick or by bright sheet metal, with (1) inch clear air space back of the sheet metal, in which event there shall be a clear and unenclosed space of not less than six (6) inches between such heating device and the nearest surface of the terra cotta or sheet metal.

Every instantaneous gas water heater shall be provided with a vent pipe not less than three (3) inches in diameter, extending at least twelve (12) inches above the roof, with a "T" connection at the top. Around every such vent at all places not exposed, there shall be a galvanized iron sleeve extending full length of the concealed portion, with a clear air space of not less than one (1) inch surrounding the vent. In every room fitted with an instantaneous gas water heater, there shall be provided an air inlet of the proper area, independent of doors and windows.

All low, portable gas stoves, gas plates or gas heaters shall be placed on iron stands or other incombustible bases, or the burners shall be at least six (6) inches above the base of the stove and metal guard plates shall be placed four (4) inches below the burners; all woodwork under them shall be covered with metal or other incombustible material. All portable gas stoves, ranges, kettles, gas plates, or other gas devices shall be connected direct to their gas supply main by iron pipe or flexible metal tubing.

Soldering iron furnaces and mufflers shall be mounted on a sheet metal stand, supported at least three inches above the bench on which they are mounted. Gas blow pipes and braziers shall be used only on a metal bench or stand supported at least three (3) inches over all woodwork, with sides, if necessary, at least three (3) inches from woodwork.

SECTION 23. RANGES, STOVES, AND HEATING FURNACES: All ranges, stoves, heating, or cooking devices shall use gas or electricity as a source of heat unless a special permit is obtained from the Director of Works.

When steam boilers, water heaters, large cooking ranges, furnaces, candy kettles, or laundry stoves, or other devices in which fire is maintained are set in brick and supported on wooden floors, such floors shall be protected by a continuous sheet metal bearing plate, not less than 3/16 of an inch thick, all joints of which shall be securely riveted and the top of such plate shall be covered with not less than seven (7) inches of concrete or brick laid in mortar.

The tops of all heating furnaces set in brick shall be covered with brick supported by iron bars and so constructed as to be perfectly tight; said covering shall be in addition to and not less than six (6) inches from the ordinary covering of the combustion chamber. Smoke pipes and furnaces not set in brick shall be at least two (2) feet from any unprotected woodwork. If such smoke pipes and furnaces are less than two (2) feet from any woodwork said woodwork must be protected by sheets of tin plate in such manner that an air space of at least two (2) inches will be formed between the woodwork and the tin plate, which shall extend one (1) foot beyond the furnace on all exposed sides.

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PHOTO BY DR. E. O. JELLINEK

THE DOME IN DARKNESS

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The backs of all ranges, candy furnaces, and kettles, if set in brick and built against any frame partition or frame wall shall not be less than eight (8) inches thick, and shall be extended with brick or hollow tile not less than two (2) inches thick to a height of two (2) feet above the top of furnaces or kettles. In no case shall any range, candy furnace, or kettle be set in brick against a brick wall with any combustible material between it and the wall, nor shall any combustible material be placed upon said wall within a distance of two (2) feet above the top of such range, candy furnace, or kettle.

All wood, lath, and plaster, or wooden ceilings over ranges in restaurants or other buildings on the Exposition Grounds shall be guarded by metal hoods, placed at least nine (9) inches below the ceiling, or shall be protected by metal lining on walls and ceilings, back of and above the range. All ventilating pipes connected with a hood over a range shall be at least nine (9) inches from any wood lath and plaster, or combustible material. When nearer such pipes shall be covered with one (1) inch of asbestos on wire mesh. Such pipes shall not pass through any floor. Stoves shall be kept twenty (20) inches, and smoke pipes twelve (12) inches from any wood lath and plaster, or woodwork, and shall be protected with metal shield arranged with at least one (1) inch air space behind such shield.

SECTION 24. STEAM AND HOT WATER HEATING: Boilers exceeding ten (10) horse power used for generating steam for heating or motive power shall not be placed above the ground floor in any building.

All boilers used for steam or hot water heating shall be of a type approved by the Director of Works and shall be tested with a hydrostatic pressure of one hundred (100) pounds per square inch. Each such boiler shall have an automatic safety valve of a standard pattern set to blow off at twenty (20) pounds or less and vented to the outside of the building. Radiators shall be made of cast iron or pressed steel or made of wrought iron or steel pipe, and shall be tested with a hydrostatic pressure of one hundred (100) pounds per square inch.

All pipe used shall be black Merchant lap-welded wrought iron or steel of standard sizes and with standard full taper threads. Fittings shall be of standard weight cast or malleable iron. All steam heating systems shall be installed so as to drain back to the boiler or are to be arranged so that the returns do not connect with any sewer.

Steam or hot water heating pipes shall not be placed within two (2) inches of any timber or woodwork, unless the timber is protected by a metal shield, in which case the distance shall not be less than one (1) inch. Any steam or hot water heating pipe passing through floors and ceilings or lath and plaster partitions shall be protected by a metal tube one (1) inch larger in diameter than the pipe, and where it runs in a horizontal direction between the floors and ceiling, a metal shield shall be placed over and under the pipe and on the sides of beams running parallel with said pipe.

All wood boxes or casings enclosing steam or hot water heating pipes, and all

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wood covers to recesses in walls, in which steam or hot water heating pipes are placed, shall be lined with metal. All pipes or ducts used to convey air warmed by steam or hot water shall be made in accordance with the rules hereinafter noted under "Hot Air Heating Systems." All steam and hot water pipe coverings shall consist of fireproof materials only.

SECTION 25. HOT AIR HEATING SYSTEMS: Pipes from hot air furnaces where not enclosed, in partitions or between floors of combustible construction, may be made of galvanized sheet iron. All such pipes shall be at least two (2) feet clear of all woodwork, wood lath and plaster, or other combustible material to a point ten (10) feet horizontally from the furnace and shall be at least twelve (12) inches clear of the woodwork beyond such point, except where the pipe is covered with an approved insulating covering of incombustible material at least one-half (½) inch in thickness, in which event the pipe must be at least twelve (12) inches clear of all woodwork or other combustible material to a point ten (10) feet horizontally from the furnace and at least six (6) inches clear beyond such point.

Pipes and ducts where enclosed in partitions or between floors of combustible material shall be made of double pipes of tin plate with not less than one-half (½) inch space between them, and shall be set in soapstone or equally fireproof borders, not less than two (2) inches in width, to which pipes shall be tightly joined by inserting the same in a groove. The outside pipe shall have cemented on an asbestos covering one-sixteenth (1/16) inch in thickness.

Ventilating ducts for cold air shall be made of galvanized iron, or metal lath and plaster. When said ducts pass through roof they shall have protecting hoods to keep out rain.

At least one register connected with each furnace shall have no valve and any register placed vertically above the furnace shall be without valve. All register boxes shall be made of plate or galvanized iron, with a flange on top to fit the groove in the frame, and the register must rest upon the same. There must be an open space of two (2) inches on all sides of the register box, extending from the under side of the border to the ceiling below. This opening shall be fitted with a tight tin or galvanized casing, the upper end of which shall be turned under the frame. All registers placed in the woodwork or combustible floor shall have iron borders firmly set in plaster of paris or gauged mortar.

SECTION 26. HOSE REELS AND STANDPIPES: Wet standpipes connected to the domestic water supply, or to the high pressure water supply, or both, with hose reels or racks attached to domestic supply may be required. The number and location of standpipes and hose connections will depend upon the type, size, and shape of the building or structure and will be determined by the Director of Works. These installations shall fully meet the "Detailed Requirements" hereinafter of the domestic water service and of the high pressure fire system, and shall comply with the rules and regulations of the San Francisco Fire Department.

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SECTION 27. CHEMICAL EXTINGUISHERS: Each Participant shall furnish and install one 2½ or 3-gallon chemical extinguisher bearing the inspection label of the Underwriters Laboratories, Inc., for each 2,500 square feet or fraction thereof, of floor area of building, structures, concessions, or exhibit space under his control. These shall be distributed throughout the buildings and structures and mounted upon wall brackets in an approved manner, as directed by the Director of Works, and shall be maintained in working order at all times.

SECTION 28. LADDERS: There shall be provided on the walls of all buildings erected by Participants at least one suitable iron ladder run from a point two (2) feet above the ground up and over parapet or fire walls to the roof. These ladders shall be located in such position as to make the wet standpipe hose connection and high pressure roof hydrants accessible. There shall be one ladder for each standpipe, unless special permit is obtained from the Director of Works to do otherwise.

SECTION 29. THEATERS AND MOVING PICTURE CONCESSIONS: (A) All theaters, assembly halls, and all places of amusement where moving picture exhibits are given and which have a seating capacity of four hundred (400) people or more shall conform to the requirements hereinbefore and shall be equipped with automatic sprinkler systems and with automatic fire alarms and other fire appliances installed under the approval of the Director of Works, and shall further be built to conform to the requirements of Sections 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, and 40, Part II hereof.

(B) Such buildings having a seating capacity of less than four hundred (400) people shall conform in general to all of the above requirements, except that with the approval of the Director of Works the automatic sprinklers may be omitted.

(C) Motion picture machines shall not be used, nor motion picture exhibits given, without a special written permit from the Director of Works. A copy of such permit must be kept posted in the operating room at all times. Such a permit will be granted only where the installation of the moving picture machine and its operation fully complies with the specifications of the Board of Fire Underwriters of the Pacific, and such other requirements as the Director of Works may deem necessary in any particular case.

SECTION 30. Every such building shall have at least one front on the street, and in such front there shall be suitable means of entrance and exit for the audience. In addition to the aforesaid entrances and exits on the street, there shall be reserved for service in case of an emergency an open court or space on the side not bordering on the street, where said building is located on a corner lot, and on both sides of said building, where there is but one frontage on the street. In the case of a one-story building having an area of 4,000 square feet or less, and with a seating capacity of 500 or less, a court five (5) feet wide on one side only shall be required, provided that all seats shall be on one floor, and that no galleries be allowed in such building.

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In all other theaters, the width of such open court or courts shall not be less than seven feet where the seating capacity is not over 1,000 people; above 1,000 and not more than 1,800 people, eight feet in width; and above 1,800 people, ten feet in width. Said open court or courts shall begin on a line with or near the proscenium wall and shall extend the length of the auditorium proper, to or to near the wall separating the same from the entrance lobby or vestibule.

A separate corridor shall continue to the street from each open court, through such superstructure as may be built on the street side of the auditorium, with continuous walls of metal lath and plaster on steel studding on each side of the entire length of said corridor or corridors, and the ceiling and floors shall be of the same or equivalent construction. Said corridor or corridors shall not be reduced in width by more than three feet, from the width of the open court or courts, and in no case shall the width of said corridor be less than four (4) feet, and there shall be no projection in the same; the outer openings to be provided with doors or gates opening toward the street. During the performance the doors or gates in the corridors shall be kept open by proper fastenings; at other times, they may be closed and fastened by movable bolts or locks. The said open courts and corridors shall not be used for storage purposes, or for any purpose whatsoever except for exit and entrance from and to the auditorium and stage, and must be kept free and clear during the performance.

The level of said corridors and courts shall be graded to the street and flush therewith at all points at street entrances. The entrance of the main front of the building shall not be on a lower level than the street, and shall not be on a higher level from the street than six (6) inches, unless approved by the Director of Works. To overcome any differences in level in and between courts, corridors, lobbies, passages, and aisles on the ground floor, gradients shall be employed, of not over one foot rise to ten feet horizontal (1–10) with no perpendicular rises.

SECTION 31. Opening into said open courts, or on the side street, from the auditorium, there shall be not less than two exits on each side in each tier, from and including the parquet and from each and every gallery. Each exit shall be at least five feet in width in the clear, and provided with doors of iron or wood; if of wood, the doors shall be metal covered and shall be constructed in an approved manner.

All of said doors shall open outwardly and shall be fastened with movable bolts, the bolts to be kept drawn during the performance, unless a device satisfactory to the Director of Works be applied, so as to keep the same locked from without, but to unlock automatically on the application of pressure from within on a bar forming part of the door. There shall be balconies not less than four feet wide in the said open court or courts, at each level or tier above the parquet, on each side of the auditorium, of sufficient length to embrace the two exits, and from said balconies there shall be a staircase extending to the

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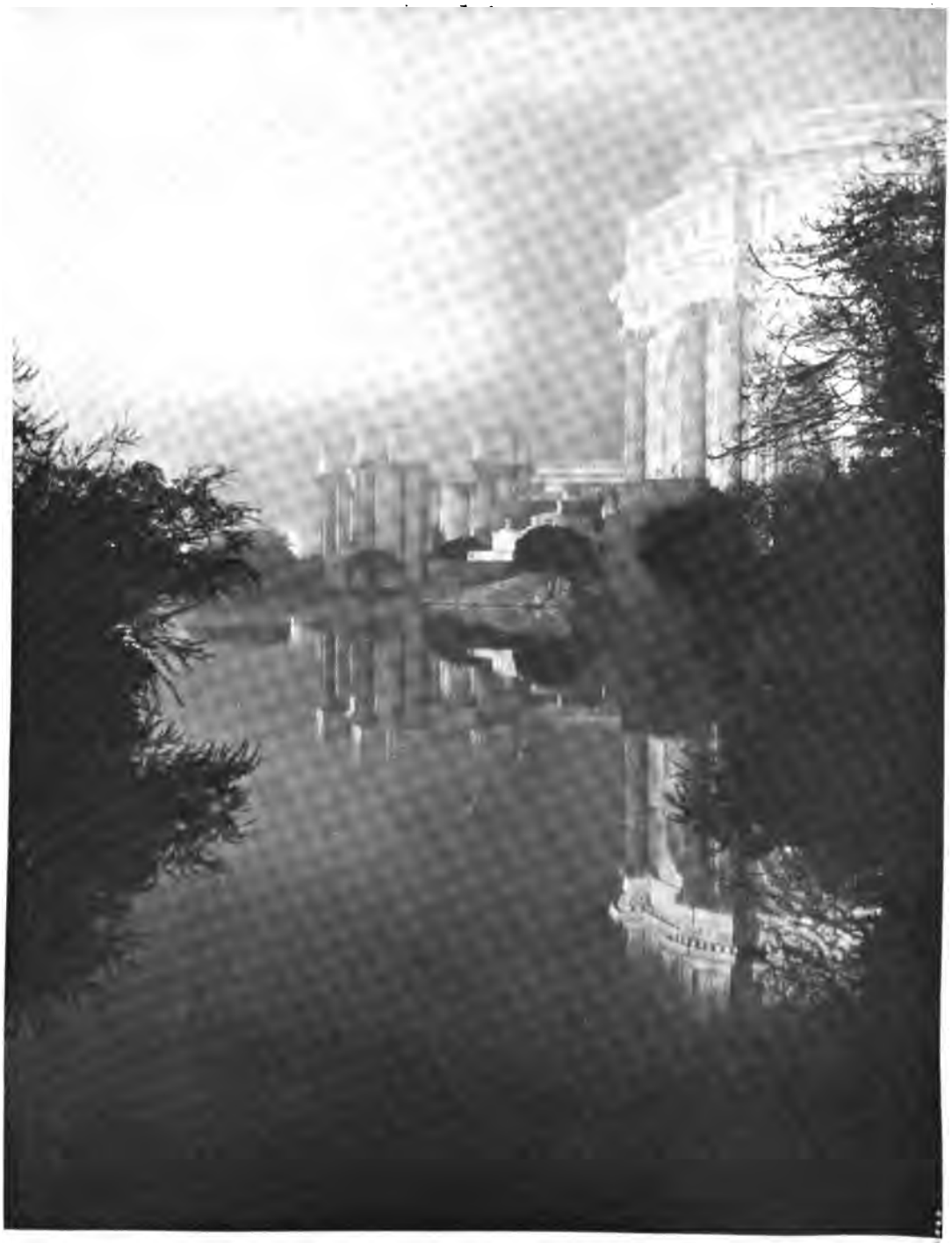

MEMORIES

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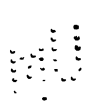

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ground level, with a rise of not over eight and one-half inches to a step, and not less than nine inches tread, exclusive of the nosing.

The staircase from the upper balconies to the next below shall not be less than three feet in width in the clear, and from the first balcony to the ground three feet in width in the clear, where the seating capacity is for 500 people or less; three feet six inches in the clear where 500 and not more than 900 people, and four feet in the clear where over 900 people, and four feet six inches in the clear where above 2,500 people. Hand rails shall be secured to the walls, three inches therefrom, and about three feet above the centers of the treads, and other hand rails shall be placed on the outside treads, and secured to said staircase so as to resist a pressure of 100 pounds per lineal foot, applied horizontally to said rail.

SECTION 32. All the before-mentioned balconies and stairways shall be constructed of iron throughout, including the floors, and of ample strength to sustain the load to be carried by them, and they shall be covered with a metal hood or awning, to be constructed in such manner as shall be approved by the Director of Works. Where one side of the building borders on the street there shall be balconies and stairways of like capacity and kind, as before mentioned, such stairways being carried to the ground.

SECTION 33. Every theater accommodating 250 persons shall have at least two (2) exits; when accommodating 500 persons, at least three (3) exits shall be provided; these exits not referring to nor including the exits to the open court at the side of the theater. Doorways of exit or entrance for the use of the public shall not be less than five feet in width, and for every additional 100 persons or portion thereof to be accommodated in excess of 500, an aggregate of twenty inches additional exit width must be allowed.

All doors of exits or entrances shall open outwardly, and be hung to swing in such manner as not to become an obstruction in a passage or corridor, and no such doors shall be closed or locked during any representation, or when the building is open to the public, unless locked by self-unlocking system.

Distinct and separate places of exit and entrance shall be provided for each gallery above the first. A common place of exit and entrance may serve for the main floor of the auditorium and the first gallery, provided its capacity be equal to the aggregate capacity of the outlets from the main floor and the said gallery.

No passage leading to any stairway communicating with any entrance or exit shall be less than four feet in width in any part thereof.

SECTION 34. The aggregate capacity of the foyers, lobbies, corridors, passages, and rooms for the use of the audience, not including aisle space between seats, shall, on each floor or gallery, be sufficient to contain the entire number to be accommodated on said floor or gallery in the ratio of 150 superficial feet of floor room for every 100 persons.

Gradients or inclined planes shall be employed instead of steps, where pos-

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sible, to overcome slight differences of level in or between the aisles, corridors, and passages.

SECTION 35. All aisles on the respective floors in the auditorium having seats on both sides of the same shall not be less than three feet wide where they begin, and shall be increased in width toward the exits in ratio of one and one-half inches to five running feet. Aisles having seats on one side only shall not be less than two feet wide at their beginning and increased in width one and one-half inches in ten running feet. All seats in the auditorium, excepting those contained in boxes, shall not be less than 32 inches from back to back, measured in a horizontal direction, and firmly secured to the floor. No seat in the auditorium shall have more than six seats intervening between it and an aisle. No stool nor seat shall be placed in any aisle.

All platforms in galleries formed to receive seats shall not be more than 21 inches in height of rise, nor less than 32 inches in width of platform. The maximum number of movable seats or chairs in boxes shall be eight.

In boxes containing a greater number of seats, the seats shall be fastened to the floor.

SECTION 36. All stairs within the buildings shall be constructed of iron or other fireproof materials throughout; stairs from balconies and galleries shall not communicate with the basement or cellar. All stairs shall have treads of uniform width and riser of uniform height throughout in each flight. Stairways serving for the exit of 50 people shall be at least four feet wide between railings, or between walls, and for every additional 50 people to be accommodated six inches must be added to their width. The width of all stairs shall be measured in the clear between hand rails. In no case shall the riser of any stairs exceed seven and one-half (7½) inches high, nor shall the treads, inclusive of nosing, be less than ten and one-half (10½) inches wide in straight stairs.

No circular or winding stairs for the use of the public shall be permitted. Where seating capacity is for more than 1,000 people, there shall be at least two independent staircases, with direct exterior outlets provided for each gallery in the auditorium where there are not more than two galleries, and the same shall be located on opposite sides of said galleries. Where there are more than two galleries, one or more additional staircases shall be provided, the outlets from which shall communicate directly with the principal exit or other exterior outlets. All said staircases shall be of width proportioned to the seating capacity as elsewhere herein prescribed.

Where the seating capacity is for 1000 people or less, two direct lines of staircases only shall be required, located on opposite sides of the galleries, and in both cases shall extend from the street level to the upper gallery, with outlets from each gallery to each of said staircases.

At least two independent stairways, with direct exterior outlets, shall also be provided for the service of the stage and shall be located on the opposite sides of the same.

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All inside stairways leading to the upper galleries of the auditorium shall be enclosed on both sides and top with walls of metal lath and plaster on steel studding. Stairs leading to the first or lower gallery may be left open on one side, in which case they shall be constructed as herein provided for similar stairs leading from the entrance hall to the main floor of the auditorium. But in no case shall stairs leading to any gallery be left open on both sides.

When straight stairs return directly on themselves, a landing of the full width of both flights, without any steps, shall be provided. The outline of the landing shall be curved to a radius of not less than two feet to avoid square angles. Stairs turning at an angle shall have a proper landing without winders introduced at said turn. In stairs, when two flights connect with one main flight, no winders shall be introduced, and the width of the main flight shall be at least equal to the aggregate width of the side flights. All stairs shall have proper landings introduced at convenient distances.

All enclosed staircases shall have on both sides strong hand rails firmly secured to the walls, about three inches distant therefrom, and three feet above the stairs, but said hand rails shall not run on level platforms and landings where the same is more in length than width of the stairs.

All staircases eight feet and over in width shall be provided with a center hand rail of metal not less than two inches in diameter, placed at a height of about three feet above the center of the treads, and supported on wrought metal or brass standards of sufficient strength, placed not nearer than four feet, nor more than six feet apart, and securely bolted to the treads or risers or stairs, or both, and at the head of each flight of stairs, on each landing, the posts or standards shall be at least six feet in height, to which the rail shall be secured.

SECTION 37. Every portion of the building devoted to the uses or the accommodations of the public, also all outlets leading to the street and including the open courts and corridors, shall be well and properly lighted with electricity during every performance, and the same shall remain lighted until the entire audience has left the premises. All of said lights in the halls, corridors, lobbies and any other part of said building used by the audience, except the auditorium, must be controlled by a separate shut-off located in the lobby and controlled only in that particular place. Gas mains supplying the building shall have independent connections for the workshops, fly galleries, and stage, and provisions shall be made for shutting off the gas from the outside of the building.

All lights in passages and corridors in said building, whenever deemed necessary by the Director of Works, shall be protected with proper wire network. All border lights shall be constructed according to the best known methods and subject to the approval of the Director of Works, and shall be suspended for ten feet by wire rope.

All ducts or shafts used for conducting heated air from the main chandeliers,

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or from any other light or lights, shall be constructed of metal and made double, with an air space between.

SECTION 38. At each and every exit in any theater or amusement hall there shall be placed and maintained a lamp in which only mineral, sperm, nut, or other non-explosive oil, or electricity upon an independent circuit, satisfactory to the Director of Works, and the Board of Fire Wardens, shall be used; and said lamp or lamps shall be lighted prior to the opening of the doors of said theater, and shall be kept lighted until the audience shall have departed from the premises; and there shall be inscribed upon said lamp or lamps the word "EXIT" in distinctly visible letters not less than eight (8) inches high.

SECTION 39. There shall be provided in the roof of that portion of the building over the stage, smoke vent openings, the total net area of which shall be one-tenth of the area of the stage included between the three outer walls of the building and the proscenium wall.

No single opening shall be of an area less than one-fifth of the total required area. These smoke vent openings shall be closed by shutters so constructed that they will open by their own weight. They shall be held in place by cords or ropes extending to and controlled from the open stage. As a part of each rope operating each shutter there shall be included two fusible links designed in accordance with the requirements of the National Board of Fire Underwriters to open at 160 degrees Fahrenheit.

All parts of shutters and frame shall be of non-combustible material. Glass, if used, shall be plain glass. Shutters may be of two types. If shutters occupying a vertical position when closed are used, they shall be hinged at the bottom and provided with a metal weight which shall cause them to open outward. This weight shall be so placed that the shutter is held in a closed position by the rope and on release of the rope, the shutter will open its full width. If shutters built on the incline of the roof are used, they shall be arranged to rest and travel on rollers. They shall be so built that they will open by their own weight and shall be held in a closed position by the rope.

These shutters shall be opened at least once a week or more often if required by the Director of Works.

No fastening or other device for holding the shutters of the smoke vent openings in a closed position, other than the ropes with fusible links, shall be attached to any such shutter.

No obstruction of any kind shall be placed in the way of a complete draft from the stage to the smoke vent openings, except that required for the operation of the scenery. No flooring shall be placed on the gridiron, but its entire surface shall be open.

SECTION 40. Every steam boiler which may be required for heating or other purposes shall be located outside the building, and the space allotted to the same shall be enclosed by walls of masonry on all sides, and the floor and ceiling of such space shall be constructed of fireproof material. All doorways

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in said walls shall have fireproof doors. No floor register for heating shall be permitted.

No coil or radiator shall be placed in any aisle or passageway used as an exit, but all said coils and radiators shall be placed in recesses formed in the wall or partitions to receive same. All supply, return or exhaust pipes shall be properly incased and protected where passing through floors or near woodwork. Gas furnaces shall not be used for heating purposes.

PLUMBING

Detailed Requirements

PART III

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. PLANS AND SPECIFICATIONS: Such plumbing or fixtures as are necessary or required by the Director of Works shall be installed in all State, Territory, Foreign or other Government, Concessions, Exhibits and other buildings and structures.

All drawings, plans, and specifications for plumbing on the Exposition grounds shall be submitted to and approved by the Director of Works, and all work shall be subject to his approval. All fixtures must be shown on the plans.

SECTION 3. CONSTRUCTION FEES: Any Participant desiring to install plumbing on the Exposition grounds shall make a written application to the Director of Works for permit, which will not be issued until there shall have been paid in cash the amount charged for the privilege, viz.:

(A) Permit Fee: The charge will be two ($2.00) dollars for each job of plumbing.

(B) Inspection Fee: Inspection shall be made by representatives of the Exposition and the charge will be 50 cents per fixture, with a minimum charge of one ($1.00) dollar and a maximum of ten ($10.00) dollars.

SECTION 4. MATERIALS FOR PIPING: All wrought pipe shall be "Merchant" pipe of standard weight, or extra heavy as required, and shall be galvanized, except gas pipe, which may be black.

All cast iron pipe shall be standard or extra heavy as required and shall be hub-jointed, smooth on inside, free from cracks or sand holes and coated inside and out with coal tar pitch applied hot.

All branch connections shall be made with Y branches and obtuse heads.

All lead pipe shall be of standard grade and weight.

All iron stone pipe shall be of standard sizes, vitrified and hub-jointed.

SECTION 5. PIPE CONNECTIONS: All joints in cast iron pipes shall be made with

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picked oakum and molten lead, carefully caulked. No putty or cement joints will be allowed.

All joints in wrought pipe, except for vents, shall be made with black heavy cast iron recessed and threaded drainage fittings, put together with red lead and pure boiled linseed oil, screwed tight. The ends of all wrought iron pipe after cutting shall be reamed out to remove all burrs.

All joints in lead pipes shall be wiped, soldered joints. All connections between lead and cast iron pipes shall be made with heavy brass ferrules of an inside diameter slightly larger than the outside of lead pipes. Ferrules to be set in hub of the iron pipe, caulked and leaded, and the lead pipe attached to ferrule with a wiped, soldered joint.

The connections between cast iron pipe and sheet iron leader pipe shall be made with a brass ferrule soldered to the sheet metal pipe and caulked with oakum and molten lead into the cast iron pipe. The use of brass sleeves is prohibited; if the leader connects to galvanized wrought iron, a satisfactory soldered connection must be made.

SECTION 6. PIPE SUPPORTS: All horizontal runs of pipe shall be carried by suitable wrought iron brackets, securely fastened to the structural parts of the building, or shall be suspended on suitable adjustable hangers, spaced not more than five feet apart and fastened as above directed.

All vertical runs to be secured by strong wrought iron collars not more than 10 feet apart. All pipe supports must be loose enough to allow for expansion.

Iron sewers, drains, soil, waste, and leader pipes running in a cellar or lowest story of a building shall run along the wall of the building where practicable, but where this is impracticable, they shall be hung on iron hangers securely fastened to the floor joists.

When it is not practicable to run or fasten the iron sewer, drain, soil, waste, or leader pipes as above directed, they may run in a trench having uniform grade.

SECTION 7. CLEANOUTS: Heavy brass male threaded cleanouts of at least one-eighth of an inch in thickness in the ferrule part, and covers 3/16 inch thick with solid 1½-inch square heads one inch high shall be placed at the end of each horizontal line of sewer and its contributory laterals of five (5) feet or longer.

Cleanouts, the ferrule or body part of which are made of cast iron, provided they comply with all other requirements, and have brass covers, may be used in lieu of all brass, and in wrought iron work solid cast iron cleanout plugs may be used.

All cleanouts shall be of the same size as the pipe they serve and must be so placed as to be accessible.

SECTION 8. SOIL, WASTE, AND VENT PIPES: Wherever practicable, all soil and waste pipes and all traps shall be exposed to view to facilitate inspection and for convenience in repairing.

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No brick, sheet metal, earthenware, or chimney flues shall be used for sewer ventilation or to ventilate any trap, soil or waste pipe inside of a building.

All soil and waste pipes and vent pipes inside of any building shall be of iron. All soil and waste pipes shall be extended above the roof at least twenty-four (24) inches. The outlet of vent pipes shall be protected with a wire screen.

Soil and waste vent pipes opening within twenty (20) feet of a window of a main building must be carried above the roof of main building.

Horizontal waste or vent pipes, except branches, are prohibited. Where rows of fixtures are placed in line, angle fittings must be used on vent pipes to prevent same from filling with rust or condensation. Trapped vents are strictly prohibited. No vent pipe from house side of any trap shall be connected with any sewer, soil, or waste pipe. Branches on main vertical vent pipes where there is more than one fixture must be taken out above the top of the highest fixture.

In no case shall a waste from any fixture be connected with any water closet, trap or vent connection for same.

No trap vent shall be used as a waste or soil pipe.

All lead safes under fixtures shall be drained by special pipe which shall discharge into a sink or on cellar floor. In no case shall the safe waste be connected with any waste, soil, drain pipe, or sewer. The end of safe waste shall be covered by a flap valve.

Drain pipes from refrigerators shall not be directly connected with any waste or soil pipe or with a drain or sewer, nor discharge upon the ground, but shall be discharged into an open or water supplied sink. Such drain pipes shall be arranged to permit frequent flushing; they shall be as short as possible, and shall not be connected to refrigerator.

No soil pipe of an inside diameter of less than four (4) inches shall be installed. All horizontal runs of pipes shall have a fall of not less than ¼ inch to the foot.

SECTION 9. TRAPS: Every water closet, urinal, sink, basin, and bath tub, and every set of traps, tub or set of tubs, shall be effectually and separately trapped. Traps on bath tubs shall be placed in such a manner that the cleanout will be in plain view, easy of access, and above the floor.

Traps must be placed as near the fixture as possible and in no case shall a trap be more than one (1) foot from the fixture.

Every sink, basin, slop hopper, bath tub, water closet, and every fixture having a waste pipe shall have a trap. Traps shall be protected from siphonage or air pressure where required by special air pipes of a size not less than the waste pipe. No vent for water closet traps shall be less than two (2) inches in diameter. Air pipes shall be run as direct as practicable. Two or more air pipes may be connected together, or with a soil pipe, but in every case of connection with a soil pipe, such connection shall be above the highest plumbing fixture on the line or stack.

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No obstruction of any description to the free flow of air through the whole course of the main sewer or soil pipe will be allowed. Where a trap is used on the main soil pipe, a vent pipe shall be run to the main roof from the lower side of the trap and a fresh air inlet shall be connected with the foot of the main soil pipe just above the trap.

Overflow pipe from fixtures shall in each case be connected with the inlet side of the trap.

When area drains are connected to the house drain they shall be effectively trapped and protected by means of back water valves.

A vertical waste pipe into which kitchen sinks discharge shall discharge into a type of grease trap satisfactory to the Director of Works.

SECTION 10. LAVATORIES AND FIXTURES: No water closet shall be placed in an unventilated room or compartment. In every case the rooms shall be opened to the outer air or be ventilated by means of an air duct or shaft. Interior water closets shall be supplied from special tanks or cisterns, the water of which must not be used for any other purpose. A group of water closets shall not be supplied from one tank; each closet fixture shall be flushed from its separate tank. All closets shall be either of earthenware or iron, white enameled both inside and outside.

Where urinal fixtures are used they shall be of either iron, enameled all over, or earthenware. They shall be piped and trapped in accordance with these rules, and shall be supplied with flush tanks. Where urinal troughs are used the trough shall be enameled iron of a type satisfactory to the Director of Works. All such troughs shall slope toward and be connected with a four (4) inch trap, properly ventilated. The trough shall be flushed by perforated pipe connected to an automatic flushing tank with separate stop cock. All urinal stall partitions shall be earthenware, slate, glass, or marble, four (4) feet in height and eighteen (18) inches wide and spaced twenty-four (24) inches apart, securely set in place and approved by the Director of Works.

Floors of Asbestolith, Compolite, or equivalent plastic material shall be laid in all toilet rooms. In all toilet rooms for men, the walls against which urinals are placed shall be plastered with a coat of Portland cement mortar or equal material seven-eighths ($\frac{7}{8}$) of an inch thick and to a height of five (5) feet above the floor. The cement mortar shall be mixed in the proportion of one part of Portland cement and two parts clean, sharp sand. The walls and floors shall be made perfectly smooth. Where closet seats are placed, the walls shall be plastered as above specified to a height of three (3) feet above the floor. Hose connections shall be provided in all toilet rooms for the purpose of cleaning and flushing the floors. All floors shall be slightly pitched towards trap drains connected with sanitary sewers.

The valves and cisterns or tanks must be so fitted and adjusted as to prevent waste of water.

Wooden sinks are prohibited inside of any building. Sinks shall be of non-

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absorbent materials. All cocks used throughout the inside of the buildings shall be self-closing of an approved style.

Pan closets and hopper closets will not be allowed in any building.

The fixture wastes in general to be as follows:

Water closets	4	inches
Slop sinks	2	inches
Wash and kitchen sinks	2	inches
Shower baths	3	inches
Floor drains and cesspools	3	inches
Urinals	2	inches
Lavatories	1½	inches

SECTION 11. STEAM EXHAUST: No steam exhaust, blow-off, or drip pipe shall connect with the sewer or with any house drain, soil, or waste pipe. Such pipe shall discharge into a tank or condenser, from which a suitable outlet to the house drain shall be provided.

SECTION 12. LEADERS: When the opening of an external or internal rain water leader is at a point within ten (10) feet of any opening of a building or of an adjoining building, then the said leader must be satisfactorily trapped and vented and supplied with water, or it may discharge into an open hopper having an outlet which shall not be less than the diameter of the leader it serves, and the hopper shall be suitably and satisfactorily supplied with water from the nearest fixtures, all in accordance with these rules and regulations.

Except as provided in these rules, no rain water leader shall be used as a soil, waste, or vent pipe, nor shall a soil, waste, or vent pipe be used as a rain water leader.

All main leaders must run to and connect with the main sewer or drain line direct. Rain water leaders serving a porch may discharge into a receiving hopper or slop sink located on a porch, but no leader serving a main roof shall discharge on a porch roof and then through the porch roof leader into any fixture.

When rain water leaders are placed inside of a building or when passing through a porch, they must be of cast iron or of galvanized wrought iron, and be properly caulked with oakum and lead just as though they were to be used as soil or waste pipes.

Except galvanized wrought iron pipe leaders, all outside leaders shall be constructed of cast iron for a distance of not less than five (5) feet above the ground line at the foot of stack; the entire outside leader may, however, be of standard cast iron pipe.

Unless rain water wastes into the storm sewers of the Exposition, as herein provided under "Sewer and Drain Connections," all decks and light wells must be properly drained, trapped, and vented and be supplied with water from the

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nearest suitable fixture, and must be connected into sewer, drain, soil, or waste pipes or cast iron or galvanized wrought iron leaders, in conformity with these rules and regulations.

Decks located on the outside boundaries of a building and not exceeding twelve (12) square feet of superficial area, need not be drained and connected as defined in the last preceding section.

A trap must be placed as close as practicable to the deck served. Several decks may be drained into the inlet side of one deck trap, fed and vented as required by the preceding section. Accessible cleanouts must be provided on the sewer side of the trap serving a deck. Deck drains shall be of a size satisfactory to the Director of Works.

SECTION 13. WATER SUPPLY PIPING: All wrought pipe used for domestic water supply systems shall be standard weight pipe. All valves and cut-offs and draw-offs smaller than 1½ inch shall be of brass. All lines must be carefully graded to draw-offs and all trapping avoided. At all ends of fixtures supply mains and at the end of all branch mains, air chambers two (2) feet long shall be provided.

All lead pipe for water supply and connections shall be extra strong. The following weights per lineal foot will be accepted as complying with these rules:

⅝ inch	3 pounds
¾ inch	3 pounds 10 ounces
1 inch	4 pounds 12 ounces
1½ inches	6 pounds
1¾ inches	7 pounds 2 ounces
2 inches	9 pounds 8 ounces

All domestic water supply piping shall fully meet the "Detailed Requirements" outlined hereinafter under "Domestic Water Service." All pipe and fittings for high pressure water system shall be extra heavy standard wrought pipe or its equivalent. High pressure installation shall be made only after consultation with and approval of the Director of Works. They shall conform to the "Detailed Requirements" hereinafter for "High Pressure Water System" and shall comply with the rules and regulations of the San Francisco Fire Department.

SECTION 14. HOSE BIBBS: Where buildings do not occupy the whole site, they shall be supplied with outside ¾-inch hose bibbs. The number and location of these hose bibbs for each building shall be determined by the Director of Works.

SECTION 15. GAS PIPING: All pipes shall be standard wrought black pipe and all fittings shall be of malleable iron. No cement shall be used in making joints. The gas piping shall be rigidly secured in position and evenly graded to drain towards the main risers, and be free from traps and low places. All

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branches must be taken from the side or top of running lines and all wall brackets are to be brought up from the floor.

Rising mains shall have a valve at each floor to control each floor separately. The piping shall be run as direct as possible and grade to rising lines and meters. Provision for drip pipes shall be made where needed.

Pipes shall be run according to the following schedules:

Size of Pipe.	Length Allowed.	No. of 5-ft. Burners Allowed.
¼ inch	30 feet	6
¾ inch	50 feet	20
1 inch	70 feet	35
1¼ inches	100 feet	60
1½ inches	150 feet	100
2 inches	200 feet	200

A ¾-inch outlet shall be provided for each gas cook stove counting five lights and ½-inch outlet for gas grates counting three lights. No riser will be allowed less than ¾ inch in diameter; no horizontal pipe will be allowed less than ½ inch diameter. Where there are more than two risers they must not be less than 12 inches apart and must be marked with metal tags to designate section of building supplied. No risers will be allowed to boiler, heater, or transformer rooms. No drop lines or risers shall be built in concrete work; walls must be recessed to receive them.

All nipples and drops must be soldered. No union coupling will be allowed. Pipe shall be laid out in such a way as to subject it to no mechanical strain except that due to weight of a lighting fixture. The use of cement, acid, water, or other materials to repair or locate leaks will not be permitted. Swinging gas brackets are prohibited. All pipe must be run in a workmanlike manner in accordance with the best practice. Pipe and fittings must not be concealed from view until approved by the Exposition Gas Inspector. After the system is completed and before any pipes are covered, it must be subjected, in the presence of an Exposition Gas Inspector, to a pressure test as follows:

The whole system shall be put under air pressure which will raise a column of mercury 12 inches high in a glass tube. The mercury must remain at this height for thirty minutes after pressure is withdrawn.

All gas piping shall further comply with the "Detailed Requirements" outlined hereinafter under "Gas Service," and in general must comply with the rules and regulations of the Pacific Gas & Electric Company of San Francisco.

SECTION 16. SEWERS: Excepting as provided for in these rules for the use of galvanized wrought iron pipe, the sewers and drains, when they lie under the building, and for three feet beyond the front wall, or of any area wall, or any wall of adjoining premises, shall be of extra heavy cast iron pipe and cast iron fittings, except that in frame buildings where the height from the top fixture

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to the lowest point of the sewer does not exceed twenty (20) feet, standard pipe may be used except that portion which is underground.

Outside of the building line the sewer or drain shall be continued to the main sewer in street with either cast iron galvanized wrought iron or vitrified ironstone pipe of the best quality.

All surface drains, soil and waste pipes discharging below the sewer line of any building and all sumps receiving drainage or wastage must be connected in a sanitary manner satisfactory to and receive the approval of the Director of Works prior to use.

Sewers and drains shall have traps placed at the line of the curb of the street.

The main trap at curb shall have its fresh air inlet so constructed as to freely admit a supply of the outer air and at the same time offer adequate protection against the introduction of foreign matter into the trap, and shall be subject to the approval of the Director of Works.

All sewer work shall further comply with the "Detailed Requirements" outlined hereinafter under "Sewer and Drain Connections."

SEWER AND DRAIN CONNECTIONS

Detailed Requirements

PART IV

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. PLANS AND SPECIFICATIONS: All State, Territory, Foreign or other Government, Special Exhibit, Concession and other buildings or structures shall install such sewers and drains as are required by the Director of Works and shall connect the same with the nearest Exposition trunk line sewer. All drawings, plans, or specifications for Sewer or Drain connections on the Exposition Grounds must be submitted to the Director of Works for his approval before any installation shall be made. All work shall be done under the supervision and direction of the Director of Works.

SECTION 3. CONSTRUCTION FEES: Any Participant desiring to connect with the sewer system in the grounds of the Exposition shall make application for the privilege and the Participant's Contractor shall pay in cash the following charges:

For connecting to Sewer System	$25.00
For inspecting each connection	2.50

SECTION 4. MATERIALS: All pipes for sewer connections outside the building lines shall be standard salt glazed vitrified sewer pipe of hub and spigot type.

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All pipe within the building line shall be of cast iron, of hub and spigot type, or wrought iron with screw connections, as noted in the "Detailed Requirements" outlined under "Plumbing."

SECTION 5. PIPE CONNECTIONS: After salt glazed pipe is laid in place the joints shall be made as follows: A gasket, made of two strands of hemp soaked in cement mortar, shall be rammed into the joints and the remainder of the joint shall then be filled and levelled from the end of bell at an angle of forty-five degrees with cement mortar, made of one part of approved Portland cement and two parts of clean, sharp sand.

SECTION 6. LAYING: All pipes for storm water, except as elsewhere noted, subsoil and area drains and all water closets, basins, sinks, bath tubs and other fixtures, must be connected with the sewer system at the points and in the manner required by the Director of Works. The main house sewer or storm drain from the building must have an internal diameter of not less than six inches. Manholes for inspection boxes of standard pattern shall be placed where directed and curved pipes shall be used for every deflection from a straight line of more than four (4) inches in two (2) feet. Connections shall be made at manholes or Y branches which have been built in sewers during construction. If no Y branches are located near the point of connection, permission will be given to cut the sewer and insert a junction piece. In masonry sewers the junction piece shall be two (2) feet long and bevelled at an angle of forty-five degrees; this work shall be done only under the personal supervision of the authorized representative of the Director of Works.

The insides of all pipes shall be left perfectly smooth and clean thoughout the entire length of the line. All pipe shall be perfect in shape; no cracked pipe will be allowed.

In no case shall more than one building or structure be connected by a branch sewer, and in no case shall a branch sewer be less than six (6) inches in diameter.

SECTION 7. STORM SEWERS: The Exposition will install a system of storm sewers throughout most of the district assigned to States and Foreign Countries. All rain water within this district shall be conveyed from buildings and structures to the nearest storm water sewer, by and through a system of conduits entirely separate and distinct from those of the plumbing system proper.

No sewage, wastage, soil, steam exhaust, nor other matter or fluid, except rain water, condensed water, or clean water from open drain tiles shall be allowed to discharge into any part of the Exposition's Storm Water Drainage System.

Storm drains shall be installed as specified for house sewers, unless special permission is granted by the Director of Works to do otherwise.

SECTION 8. SEWER AND DRAIN CONNECTIONS: All pipe, traps, and other fittings necessary to connect applicant's plumbing system to the Exposition's sewers will be installed and maintained at the expense of the applicant.

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The size of actual connection to sewer for any installation will be decided by the Director of Works. House sewers or storm water drains, or both, shall be run to the nearest sewer by applicant at his expense and as directed. If Y's are available on Exposition sewers, applicant is to connect thereto, but if sewer must be broken to enter same, the actual connection thereto will be made by the Exposition.

DOMESTIC WATER SERVICE

Detailed Requirements

PART V

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. WATER SERVICE: The Exposition will install a system of mains for furnishing water for domestic and drinking purposes within or under the Exposition's buildings and generally throughout the grounds.

SECTION 3. PLANS AND SPECIFICATIONS: All State, Territory, Foreign, or other Government, Special Exhibit, Concession and other buildings and structures shall install, at the expense of owner or occupant, such water service systems as are required by the Director of Works and connect said systems to the nearest Exposition main.

All drawings, plans, and specifications for water piping to be installed by Participants shall be subject to the approval of the Director of Works and the work shall be done under his direction.

SECTION 4. CONSTRUCTION FEES: Any Participant desiring to connect with the Domestic Water Supply System within the Exposition Grounds shall make application to the Director of Works for permit and the Participant's contractor shall pay in cash the amount charged for each connection; the charge will cover the cost of inspection, furnishing and installing of meter and making tap to the Exposition's main by the Exposition, and must be paid when permit is issued, as follows:

⅝-inch tap	$10.00
¾-inch tap	12.50
1 -inch tap	16.50
1½-inch tap	26.00
2 -inch tap	37.50

Charges for larger taps will be specified on application to the Director of Works.

For extra or additional inspection caused by violation of the rules governing the installation of water piping, a charge in addition to the regular fee will be

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collected at the rate of 75 cents per hour for the time consumed by the Inspector in making such inspection.

SECTION 5. SERVICE CONNECTIONS: All piping, valves, and fittings from the service tap necessary to connect the Consumer's installation with the Exposition's main shall be installed and maintained by and at the expense of the Consumer, subject to the approval of the Director of Works.

The size of meter and tap for any installation will be decided by the Director of Works. Each applicant will be required to install a valve on the house side of meter.

A suitable support in the building or structure shall be provided by the Consumer for each meter and the piping shall be arranged for convenient connection with the meter.

All service pipes shall be of standard iron or lead pipe and where placed underground shall not be less than one-half inch in size nor laid less than two (2) feet below the surface of the ground.

Service pipes shall be run to the nearest street or building main by the applicant as required by the Director of Works. Actual connection to main will be made by the Exposition at tees or with saddles. Every service or supply pipe run underground shall be fitted with a bronze tee-head cock, enclosed in an iron stop box with top flush with surface level and located at the curb or as directed. Stop boxes to be of cast iron, adjustable in length and not less than four (4) inches in diameter at any point. Stop boxes to be fitted with a hinged cover having the letter "W" cast thereon.

All temporary service pipes shall be removed, and all service pipes laid to supply premises where there is no water main in the street shall be removed and connection made to the main as soon as it is laid in the vicinity of the premises.

SECTION 6. HOSE REELS: Participants requesting Domestic Water service shall furnish and install such wet standpipes, hose, hose racks or reels, and other appurtenances as may be required by the Director of Works. In no case shall a standpipe be installed less than one and one-half (1½) inches in diameter. Each hose connection shall be supplied with the necessary brass valve, with an approved hose rack or reel and with fifty (50) feet of 1½-inch Underwriters' linen hose with brass couplings and ½-inch brass nozzle. The valves, hose, racks, nozzles, and other parts shall be of approved type and fulfilling the requirements of the Exposition standards. Hose valves shall open by turning to the left.

All standpipes shall run above the roof and there shall be provided with hose and racks as above noted, suitably housed, unless same is prejudicial to the architectural appearance of the building, in which case other provisions shall be made, subject to the approval of the Director of Works.

SECTION 7. METER RATES: All Consumers shall purchase water on a meter basis. The rate for water for ordinary domestic purposes will be 40 cents per thousand gallons.

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The minimum bill for water for each installation shall be as follows:

Where a ⅝-inch meter is used	$1.50 per month
Where a ¾-inch meter is used	2.00 per month
Where a 1 -inch meter is used	2.50 per month
Where a 1½-inch meter is used	3.00 per month
Where a 2 -inch meter is used	3.50 per month

The size of the meter to be used is to be decided by the Director of Works.

Special rates will be given for water used for other than ordinary domestic purposes.

SECTION 8. TAPS: All taps to the water mains are to be made by the Exposition, and no service pipe is to be buried or covered until tested and passed by an authorized inspector of the Exposition.

Where the plumber's work requires the water to be shut off from a main the plumber shall secure a special permit from the Director of Works.

HIGH PRESSURE WATER SYSTEM

DETAILED REQUIREMENTS

PART VI

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. PLANS AND SPECIFICATIONS: The Exposition will install a High Pressure Water System for fire protection and will run mains through the Exposition Grounds.

All drawings and specifications for fire protection on the Exposition Grounds shall be submitted to the Director of Works for approval before any connection will be allowed with the High Pressure System.

SECTION 3. CONSTRUCTION FEES: State, Territory, Foreign or other Government, Concessions, Special Exhibit and other such buildings or structures, as may be required by the Director of Works, shall be equipped with a complete fire protection system at the expense of the owner or occupant. This system shall be installed under the supervision of the Director of Works and shall be connected with the nearest main of the trunk system installed by the Exposition.

Any person or persons desiring to connect with the fire protection system within the enclosure of the Exposition Grounds shall make application therefor and shall pay the amount charged for each connection. The following prices will be charged for the privilege of High Pressure Service and for inspection and making the tap connection to the main and shall be paid when permit is issued:

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Connection for 3-inch fire protection tap.....$100.00
Connection for 4-inch fire protection tap..... 110.00
Connection for 6-inch fire protection tap..... 125.00
Connection for 8-inch fire protection tap..... 140.00

SECTION 4. MATERIALS FOR PIPING: All pipe used shall be extra heavy black pipe, asphaltum dipped where laid in ground.

SECTION 5. PIPE CONNECTION: All fittings shall be long sweep extra heavy cast iron or malleable and asphaltum dipped. All valves and appurtenances shall be of the same design and standard as used on the High Pressure System installed by the Exposition.

SECTION 6. PIPE SUPPORTS: Where required by the Director of Works, all specials and appurtenances shall be yoked, strapped, or blocked. All horizontal runs of pipe shall be carried by strong wrought-iron brackets, securely fastened to the structural parts of the building or suspended on strong, adjustable hangers, not more than 5 feet apart, secured as specified.

All vertical runs shall be secured by suitable wrought-iron collars placed not more than 10 feet apart. All pipe supports must be loose enough to allow for expansion and contraction.

SECTION 7. SERVICE CONNECTIONS: All piping, valves, and fittings, except service tap necessary to connect applicant's installation with the Exposition's nearest main, shall be installed and maintained by and at the expense of the applicant. Actual connection to the main will be made by the Exposition at tees or with special saddles.

The size of connection for any installation will be determined by the Director of Works. Each applicant will be required to install a valve in a position convenient and accessible to the Exposition inspectors and agents.

SECTION 8. FIRE HYDRANTS: Participants requesting High Pressure Water Service, and when required by the Director of Works to install the same, shall furnish and install such wet standpipes, hydrants, and other appurtenances as required by the Director of Works. The fire hydrants required shall be of standard pattern of approved design. All hydrants shall open by turning to the left. The stem nut, nozzle cap nut, nozzle threads, and diameter of nozzle shall be the same in form and dimensions as those used by the San Francisco Fire Department. All standpipes shall run above roof, and there be connected to hydrants as herein specified, unless same is prejudicial to the architectural appearance of building, in which case other provisions shall be made, subject to the approval of the Director of Works.

SECTION 9. TESTS: The fire protection systems installed by Participants, when completed shall be subjected to a test of not less than four hundred and fifty (450) pounds per square inch. The Owner or Participant shall pay the cost of making such test.

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ELECTRIC LIGHT AND POWER SERVICE

Detailed Requirements

PART VII

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. ELECTRIC SERVICE: The Exposition Company will install a system of mains for the distribution of electric light and power to all buildings and structures on the Exposition Grounds and will supply the following kinds of service:

(A) *Lighting Service:* In the Exposition Buildings the lighting will be served from 60-cycle, 3-phase 4-wire mains, having a voltage of approximately 115 between conductors and neutral. The lighting elsewhere will be served from 60-cycle, single-phase, 3-wire mains having a voltage of approximately 115 to neutral and 230 between outside conductors.

Before ordering lamps Consumers should ascertain from the Electrical Department the exact voltage at which current will be delivered to their service wires.

(B) *Alternating Current Power Service:* In the Exposition Buildings there will be available for power purposes 60-cycle, single-phase and 3-phase current at an approximate voltage of 230. The power service elsewhere will be 3-phase at 230 volts and single-phase at 230 volts and 115 volts.

Single-phase motors must not be over 1 H. P. in size if served at 115 volts nor over 5 H. P. if served at 230 volts.

(C) *Direct Current Power Service:* Direct current at approximately 125 and 250 volts will be available in the Machinery, Mining, Transportation, and Manufactures Buildings only. Direct current will only be available during the hours that the Exposition Buildings are open to the public, and will be supplied for only such purposes as absolutely require the use of direct current.

Direct current at 110/220 volts will be available in the Concessions District for arc projectors and special service requiring direct current, but not for motor or other service which can be operated by alternating current. Direct current service must be contracted for prior to August 1, 1914.

No direct current will be furnished for motors or apparatus of larger capacity than 25 H. P. and no motor larger than 2 H. P. will be served with 125 D. C., unless arranged for in advance under special contract.

SECTION 3. PLANS AND SPECIFICATIONS: All buildings or structures erected by or for Participants in which electric service is desired, or required by the Director of Works, shall have installed and connected to the Exposition's mains, by and at the expense of the owner or occupant, such electric wiring as is required by the Director of Works.

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All drawings, plans, and specifications for electric wiring to be installed by or for Participants, shall be submitted to and approved by the Director of Works and done under his direction, as hereinbefore outlined. All lamps, motors, and appliances shall be shown in the plans with their rated capacity indicated.

SECTION 4. CONSTRUCTION FEES: Application for an Electrical Construction permit shall be filed with the Director of Works in writing on the printed form furnished, together with plans and specifications in duplicate, describing the proposed wiring, apparatus, or fixtures. Construction charges are as follows and shall be paid by the Participant's Contractor:

(A) *Permit Fee:* The charge for each Permit granted will be $2.00, payable when permit is issued.

(B) *Inspection Fees:* Inspection of all electrical construction and apparatus will be made by authorized representatives of the Division of Works, and the fee for inspection will be as follows, and shall be paid when final Certificate of Inspection is issued:

1. For lamps, heating appliances, and all apparatus or devices, except motors and generators, $1.00 per K. W. of connected load.

2. For motors and generators—

1 K. W. and under, 50c each.
Over 1 K. W. and up to 15 K. W., $1.00 each.
15 K. W. and over, $2.00 each.

Minimum fee for any inspection, $1.00.

When more than two inspections of any installation or part thereof are necessary, additional fees will be charged at the rate of 75c per hour for the time required by the inspector to make additional inspection.

(C) *Service Connection Fee:* For Consumers located in the Exposition Buildings, Concessions District, or other location where the mains are not underground, the charge for furnishing and installing meter, making connections within the Consumer's service cabinet, and connecting the Consumer's service wires to the Exposition mains, will be $15.00 for each service. For flat rate Consumers, the charge for making connection within the Consumer's service cabinet and to the Exposition's mains will be $5.00 per service. These charges are payable when Permit is issued.

For Consumers served from the Exposition's underground system, the charge for furnishing and installing meter, making connection within the Consumer's service box, and connecting the Consumer's cable to the Exposition's underground system will be $25.00, payable when the Permit is issued. For flat-rate Consumers the charge for connecting the Consumer's cable to the Exposition's underground mains will be $15.00, payable when permit is issued.

SECTION 5. SERVICE CONNECTIONS: The Owner or Consumer shall at his own expense run service wires from his service cabinet to the Exposition's mains, at

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the point designated in his Permit and install all wiring, conduits, switches, and other appurtenances required for the service, complete and ready for final connection to the Exposition's mains. All work done and all material used shall be subject to the inspection and approval of the Director of Works or his authorized representative.

Actual connection to the Exposition's mains and connections within the service cabinets shall be made only by the Exposition. If underground, the service leads shall not be covered up until passed by an authorized Electrical Inspector. Participants served from the underground distribution system shall, if so directed, install on their premises a transformer vault of approved fireproof construction and shall install two 3-inch black iron pipes from said vault to the nearest manhole of the Exposition's underground system. The Exposition will install in the vault such transformers and other equipment as are necessary for supplying current to the Participant and to other Participants in the immediate neighborhood. In consideration of the free use of the vaults by the Exposition, the Service Connection and Inspection Fees will be waived and the Participant will not be required to run a service cable from his premises to the Exposition's underground system.

All consumers in the underground district requiring telephone service shall install a 2-inch iron pipe from their premises to the nearest electric manhole or transformer vault, as directed.

SECTION 6. INSTALLATION: All electrical wiring done shall comply with the requirements herein, and with such additional rules and requirements as may be made by the Exposition, and with the requirements of the 1913 edition of the "National Electric Code." All material used shall be new, and all wire, flexible cord, conduit and fittings, cut-outs, fuses, receptacles, sockets, rosettes, switches, and flexible tubing used shall be such as have been examined and approved by the Underwriters' Laboratory, Inc. In case of dispute as to the interpretation of rules and requirements, or as to approval of work or materials, the decision of an authorized representative of the Board of Fire Underwriters of the Pacific shall be final.

The Consumer shall install, where directed, a service cabinet of design and construction approved by the Director of Works, and install therein service fuses of the capacity and type designated in his Permit. The Consumer shall run his service wires from the point designated in his Permit to his service cabinet in conduits or use armored cable. The Consumer shall install on his distribution board a main service switch with suitable fuses and run his wires therefrom into the said service cabinet, leaving sufficient spare lengths to enable the Exposition to make the necessary connections within the service cabinet.

Service cabinets or fuse boxes for Consumers purchasing energy on a flat-rate basis need be only of sufficient size to be provided with fastenings to permit sealing the box.

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Service cabinets for Consumers purchasing energy through a meter may be made to enclose the fuses, meters, and accessories, or the service fuses may be placed in a box separate from the meter and accessories, in which case a metal covering for the connection between the fuse box and meter box shall be provided. In all forms of construction the arrangement must be such that the fuses and meter box can be separately sealed, and the meter read without breaking the meter box seal. The Consumer shall provide sufficient space and fastening within the service or meter box for the Exposition meter and accessories and shall bring all necessary wiring into the box.

The sealed service fuses when blown will be replaced by the Exposition at the expense of the Consumer.

All D. C. motors and all A. C. motors of 5 H. P. and over shall have their starting devices fitted with a no-voltage release.

Consumers having a lighting load from 2 to 25 K. W. shall have their installation wired for 3-wire 115/230 volt, single-phase service; Consumers having a lighting load in excess of 25 K. W. shall either have their installation wired for a 3-phase 4-wire service having a voltage of approximately 115 between each phase and neutral, or shall arrange their wiring so that the load is divided equally between three separate 115/230 volt, single-phase services.

SECTION 7. EXIT AND PATROL LIGHTING: Participants shall install, where directed, such electric and gas lights for exit and patrol purposes as the Director of Works may require for public safety.

SECTION 8. DECORATIVE LIGHTING: The decorative lighting installed by Participants shall be subject to the approval of the Director of Works and no installation will be permitted which is out of harmony with the general lighting scheme or in any way causes inconvenience or disadvantage to other Participants.

Light sources of great intrinsic brilliancy shall be fitted with suitable globes or reflectors or so placed as not to cause a disagreeable effect upon the eyes.

SECTION 9. METERS: In case of failure of a meter to register properly or in case the meter seal has been broken, the Consumer shall be liable for an average bill. Meters will be tested at regular intervals and the Consumer may have access to the records of such tests. Any Consumer may demand a test of his meter by depositing $3.00 with the Exposition, and if the meter is found on test to be accurate within 2 per cent, said deposit will be forfeited, but if the meter is in error more than 2 per cent said deposit will be returned to the Consumer. If the test shows that the meter is more than 2 per cent fast, the Consumer will be refunded an amount sufficient to cover the error in excess of 2 per cent for the two months preceding the test, but if the test shows the meter to be more than 2 per cent slow, the Consumer shall pay to the Exposition an amount sufficient to cover the error in excess of 2 per cent for the two months preceding the test.

SECTION 10. RATES: Electric service will be furnished at Flat Rates, Meter Rates, and Special Rates, as follows:

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(A) *Flat Rate:* Electrical Installation having a connected load to any given kind of service of less than 2 kilowatts will be charged for service at a flat rate of $15.00 per calendar month per kilowatt of connected load, payable in advance. If the connected load is 166 watts or less the rate will be $2.50 per month, payable in advance.

The foregoing rate is based on the entire connected load being used not more than 56 hours per week, and if upon the test the current consumption is found to be greater, the rate will be increased proportionately, or, if the Director of Works so decides, the flat rate will be discontinued and the Consumer served through a meter at meter rates.

The connected load is to be determined by adding together the capacities of the lamps, apparatus, and appliances connected to any one given kind of service, and the capacity of any lamp, piece of apparatus, or appliance will be taken as that of the manufacturer's rating marked thereon; or by test made by the Director of Works. In estimating the connected load one H. P. will be considered equivalent to 750 watts.

(B) *Meter Rates:* Electric service to Consumers having a connected load of 2 K. W. and over for any given kind of service, will be measured by meters which will be installed and maintained by the Exposition.

The rates for electric service measured by meters will be based upon the size of the Consumer's connected load and the amount of energy used per month. The connected load will be determined by adding together the capacities of all lamps, apparatus, and appliances served through any one meter. The capacity of lamps, apparatus, and appliances will be taken from the manufacturer's rating marked thereon or the Director of Works may test any lamp, piece of apparatus, or appliance to determine its capacity. In estimating the connected load, one H. P. will be taken as equivalent to 750 watts.

The connected load and rate charged shall be figured separately for each kind of service furnished, and in no case shall the Consumer's rate be determined by any combination of the connected loads or current consumption of different kinds of service.

For electric service on a meter basis, the Consumer shall pay a charge of $2.50 per month per K. W. of connected load, and in addition thereto shall pay for the energy consumed at the following rates:

5c per K. W. H. if the monthly consumption is less than 1,000 K. W. H.

If the consumption per month is 1000 K. W. H. or more, but not in excess of 20,000 K. W. H., the rate of 5c will be reduced 1/10c. for each 1,000 K. W. H. consumed.

For a monthly consumption exceeding 20,000 K. W. H. the rate will be 3c. per K. W. H.

A month will be considered as the interval between meter readings, which will be taken as nearly as it is convenient on the same date of each calendar month.

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(C) *Special Rates:* Exhibitors so located that they will not require electric service except during the daylight hours that the Exposition Buildings are open to the general public will be given service rates at 25 per cent less than the foregoing Flat and Meter Rates. Exhibitors requiring electric service to operate moving machinery will be charged only for the energy used, at the rate of 3 cents per kilowatt hour.

GAS SERVICE

Detailed Requirements

PART VIII

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. GAS SERVICE: The Exposition will install a system of gas mains in all of its exhibit buildings and throughout the grounds generally and will furnish gas manufactured from oil for domestic, heating, and power purposes. No other gas or fuel or source of heat, except electricity, shall be used by Participants except with the written consent of the Director of Works. The gas will have a heat value of not less than 600 B. T. U.

SECTION 3. PLANS AND SPECIFICATIONS: All buildings or structures erected by Participants in which gas is required shall have installed and connected to the Exposition's gas mains, at the expense of the owners or occupants, such gas piping systems as are required by the Director of Works.

All drawings, plans, and specifications for gas piping on the Exposition grounds shall be submitted to and approved by the Director of Works and the work shall be done under his direction as hereinbefore specified.

SECTION 4. CONSTRUCTION FEES: Any Participant desiring to connect to the Exposition's Gas Supply system shall make application to the Director of Works for permit and the Participant's Contractor shall pay in cash the amount charged for each connection; the charges covering the cost of inspection of the Consumer's installation; the furnishing and installing of a meter, and the installation of the service pipe from the gas mains to the Consumer's meter, will be as follows:

For installations requiring a ¾-inch meter	$25.00
For installations requiring a 1 -inch meter	27.50
For installations requiring a 1¼-inch meter	30.00
For installations requiring a 1½-inch meter	35.00
For installations requiring a 2 -inch meter	40.00

The above prices cover ordinary domestic service; prices for power and special purposes will be given upon application.

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SECTION 5. METERS: Meters will be installed and maintained by the Exposition but the Consumer shall provide suitable supports for the meter and arrange his piping so as to facilitate the setting of the meter.

In case of failure of a meter to register properly, or in case the meter seal has been broken, the Consumer shall be liable for an average bill.

Any Consumer may demand a test of his meter by depositing $5.00 with the Exposition, and if the meter is found on test to be accurate within 2 per cent, said deposit will be forfeited, but if the meter is in error more than 2 per cent, said deposit will be returned to the Consumer. If the test shows that the meter is more than 2 per cent fast, the Consumer will be refunded an amount sufficient to cover the error in excess of 2 per cent for the two months preceding the test; but if the test shows the meter to be more than 2 per cent slow, the Consumer shall pay to the Exposition an amount sufficient to cover the error in excess of 2 per cent for the two months preceding the test.

SECTION 6. PRESSURE REGULATORS: Pressure regulators will be installed and maintained by the Exposition at the time the meters are installed.

SECTION 7. METER RATES: The rates for gas supplied to Consumer during each calendar month or fraction thereof, and as measured by the meter installed by the Exposition, will be as follows:

$1.00 per 1,000 cubic feet for the consumption in each month up to and including 50,000 cubic feet.

$0.80 per 1,000 cubic feet for the excess consumption in such month over 50,000 cubic feet.

The minimum bill per month will be as follows:

For installations having a ¾-inch meter	$ 2.50
For installations having a 1 -inch meter	5.00
For installations having a 1¼-inch meter	7.50
For installations having a 1½-inch meter	10.00
For installations having a 2 -inch meter	15.00

STEAM SERVICE

DETAILED REQUIREMENTS

PART IX

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. STEAM SERVICE: Steam service will be available in the Machinery Building during the hours that the building is open to the public. Saturated steam at a pressure of approximately 150 lbs. per square inch will be furnished. Headers and mains for live steam, exhaust steam, drips, and drains will be in-

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stalled by the Exposition. Participants requiring steam must arrange for service in advance.

SECTION 3. PLANS AND SPECIFICATIONS: All Participants who have arranged with the Exposition Company for a supply of steam in the building named shall install and maintain, at their own expense, such steam piping systems as may be required by the Director of Works and shall connect said system to the Exposition's mains.

All drawings, plans, and specifications for steam piping shall be submitted to and approved by the Director of Works and the work shall be done under his direction.

SECTION 4. CONSTRUCTION FEES: Any Participant desiring to connect to the Exposition's steam supply system shall make application to the Director of Works for permit and the Participant's contractor shall pay in cash the amount charged for each connection; the charge for each service connection will be $25.00, which charge covers the cost of inspection and actual connection to the Exposition's mains by the Exposition.

SECTION 5. SERVICE CONNECTION: The Consumer shall install, maintain, and own all piping, valves, and fittings, required to connect his installation with the nearest steam, exhaust, drip, and drain mains belonging to the Exposition. The Exposition will install suitable openings, with valves, in its mains, to which the Exposition will connect the Consumer's piping.

SECTION 6. TESTS: All piping and apparatus subject or liable to full boiler pressure shall be tested before the non-conducting covering is placed, with cold water to a pressure of 225 lbs. per square inch, and all joints and connections made tight before steam pressure is applied.

SECTION 7. STEAM RATES: Steam will be sold to exhibitors at approximately actual cost to the Exposition Company. The rates will be fixed as soon as the various elements of cost have been determined.

SECTION 8. ISOLATED STEAM PLANT: Participants desiring to install steam plants within the Exposition Grounds shall secure a special permit from the Director of Works. Excepting as provided for in Section 39, Part 2, no fuel other than gas supplied by the Exposition shall be used in connection with any steam boiler or generator installed within the Exposition grounds by any Participant, except with the written permission of the Director of Works.

SECTION 9. MATERIALS AND WORKMANSHIP: All materials used shall be of the best quality for the service intended, and only the best workmanship will be allowed. Materials and workmanship shall at all times be subject to the approval of the Director of Works or his authorized representative.

All live steam piping, valves, fittings, and appliances shall be covered with a non-conducting material of approved form and thickness. Wherever the heat from exhaust, drip, or drain systems may, in the opinion of the Director of Works, prove a nuisance or menace, they shall be properly covered with non-conducting material as directed.

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COMPRESSED AIR SERVICE

Detailed Requirements

PART X

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. COMPRESSED AIR SERVICE: A limited amount of compressed air at 80 pounds pressure will be available in the Machinery, Mining, and Transportation Buildings. Compressed air service must be arranged for in advance.

SECTION 3. PLANS AND SPECIFICATIONS: All Participants who have arranged for compressed air service in the buildings named shall install and maintain, at their own expense, such compressed air piping systems as may be required by the Director of Works, and shall install said systems up to and ready for connection to the Exposition's mains.

All drawings, plans, and specifications for compressed air piping shall be submitted to and approved by the Director of Works and the work shall be done under his direction.

SECTION 4. CONSTRUCTION FEES: Any Participant desiring to connect to the Exposition's compressed air supply system shall make application for permit as hereinbefore outlined, and the Participant's Contractor shall pay in cash the amount charged for each connection; the charge of $10.00 for each service connection will cover the cost of inspection and the actual connection to the Exposition's mains by the Exposition.

SECTION 5. SERVICE CONNECTIONS: The Consumer shall, at his own expense, run a service pipe to the Exposition's compressed air main at the point designated in his permit and shall install all piping, valves, and other appurtenances required for the service. All work done and all material used to be subject to the inspection and approval of the Director of Works.

Actual connection to the Exposition's mains will be made by the Exposition and the service pipe shall not be covered up or enclosed until test has been made and piping passed by an authorized inspector. Air shall not be turned in to an installation except by an Exposition Inspector.

SECTION 6. RATES: The Consumer shall pay for compressed air service a monthly charge of $4.00 per H. P. of maximum demand of his installation, and in addition thereto $0.15 per 1,000 cubic feet of free air consumed. One H. P. will be considered equivalent to 5.5 cubic feet of free air used per minute.

The maximum demand and average monthly consumption shall be estimated by the Director of Works and the monthly charge based thereon. The Consumer shall have the right to have the maximum demand and monthly consumption charges based on tests made under the supervision of the Director of Works, and the cost of such test shall be paid by the consumer. The Di-

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rector of Works reserves the right to make tests at the expense of the Exposition and base the charges for air service thereon. Tests shall be made at the convenience of the Director of Works and any change in rates resulting therefrom shall apply for the whole period of service covered by the consumer's contract.

TREATMENT OF GROUNDS

Detailed Requirements

PART XI

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. PLANS: A harmonious landscape scheme for the Exposition Grounds is desired. It is intended that all gardens and grounds shall enhance the beauty of the Exposition. To obtain this end full and explanatory drawings for the treatment of the allotted space not covered by a building or structure shall be subject to the approval of the Director of Works before work is begun.

SECTION 3. FEES: No charge will be made in connection with application for permits under this heading.

SECTION 4. PATHS: Access and approach to each site and to each building or structure will be afforded from one of the main roadways, paths, or walks indicated on the Official Block Plan of the Exposition.

A path or walk of ample width and suitable material shall be built on direct or curved lines, from the main roadway, path, or walk of the Exposition to the building or structure, by and at the cost of the occupant of said building or structure.

SECTION 5. CONSTRUCTION: All work of construction in the sites and grounds shall be done by occupants thereof at their own expense.

SECTION 6. FENCES: No fence, curb, or hedging defining the lines of the ground will be permitted without the approval of the Director of Works, except in the case of allotments of space within the section of the ground set aside for amusement concessions.

SECTION 7. PLANTING: All planting of trees, shrubs, or flowers in gardens of Concession, Special Exhibit, and Foreign or other Government Buildings shall be devised for the purpose of supporting, bearing out, or adding grace to the controlling elements of the architectural design and shall always be maintained in perfect order by the occupant of the building or grounds.

SECTION 8. SIGNS: Small signs written in the standard Exposition style of lettering and similar to the sample in the office of the Director of Works may be placed before notable plants or objects, giving their name and the name of the exhibitor, and stating the locality from which they have been taken.

SECTION 9. EXISTING FOLIAGE: The Exposition will cut and dispose of all trees

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within the lines of any building to be erected and will move such other trees as may be necessary by reason of the grading and the arrangement of the ground around the building.

SECTION 10. EXHIBITORS: The above rules regarding the treatment of grounds do not apply to exhibitors. Rules and regulations in this regard will be issued by the Division of Exhibits.

THE USE OF STREETS, ROADS, AND PATHS, AND TRAFFIC REGULATIONS

DETAILED REQUIREMENTS

PART XII

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. ROADS: The Exposition will build and maintain a system of streets, roads, and paths within the Exposition Grounds and these rules are intended to cover the use of same, to govern the handling of supplies and commodities, and to regulate traffic.

In general all Exposition streets, roads, and paths are for the use of visitors and other pedestrians, but certain streets and roads are set apart and designated as driveways or thoroughfares for the handling of supplies and commodities. Certain roads and paths are set aside for the exclusive use of pedestrians and must not be used for vehicular traffic, except by such vehicles as are propelled by man power. Designated driveways and thoroughfares from time to time may be closed to vehicular traffic and other roads and streets named for such traffic by order of the Director of Works.

SECTION 3. VEHICLE PERMITS: Vehicles, other than those operated under a regular concession, will not be allowed to enter the grounds without a permit from the Director of Works. Vehicles operated under a concession will be subject to joint rules established by the Director of Works, the Director of Concessions and Admissions, and the Traffic Manager.

SECTION 4. TRAFFIC AND DELIVERY: (A) The rights of pedestrians on roadways, pathways, and walks are paramount, except as stated in clause (E) of this section.

(B) Drivers will not be permitted to drive in or across gutters except where crossings are provided.

(C) Vehicles loaded with loose materials or liquids must be constructed so as not to spill the contents.

(D) Vehicles drawn by animals will not be permitted on the amusement streets, except fire apparatus, police patrol wagons, refuse wagons, United States mail wagons, and hospital ambulance when responding to calls, and, except

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where it is not possible for concessionaires to receive supplies from the alleyways, concessionaires will be permitted to deliver supplies on the amusement streets between the hours of 11:30 o'clock P. M. and 8:30 o'clock A. M.

(E) Police wagons, fire apparatus, hospital ambulance, and United States Postal automobiles in service have the right of way except upon parks, areas, lawns, paths, and roadways set aside for exclusive use of pedestrians.

(F) Coal, coke, sawdust or shavings shall be delivered in sacks securely fastened, no sack to contain more than one hundred pounds, and must be carried from wagon to bin. Straw or hay must be delivered in bales, and none of the above-mentioned materials shall be piled on the roadway or walks.

(G) Coal, coke, hay, straw, kindling, ice, beer kegs, barrels, cases, soda water boxes, or other articles will not be allowed to remain outside the buildings or enclosures. When put inside, each class must be neatly piled by itself.

(H) During the Exposition period no hauling shall be done over roadways within the Exposition grounds except those assigned for the purpose, and then only between the hours of 11 o'clock P. M. and 8 o'clock A. M.; all vehicles must leave the grounds before 9 o'clock A. M. Vehicles will not be permitted to enter the grounds after 8 A. M. without special permit from the Director of Works.

SECTION 5. EXPOSITION ENTRANCES: (A) Entrances to the Exposition grounds are provided for the admission of freight or supplies, near Laguna and Beech streets, at Van Ness Avenue, Fillmore Street, Scott Street, Baker Street, Presidio Wharf, Fulton Basin Wharf, and at Ferry Landing Wharves.

To facilitate hauling and delivery the grounds have been divided into five sections, as indicated on map herein.

(B) All land vehicles carrying freight or supplies destined for points or buildings located within the boundaries of the Exposition grounds shall deliver same to an Exposition warehouse near Laguna and Beech Streets, from which the freight or supplies shall be delivered to final destination by the Exposition Terminal Railway Company unless a vehicle permit has been granted for vehicles to enter grounds, in which case all vehicles carrying freight or supplies destined for various sections shall make entrance to the grounds as follows:

(1) Section No. 1: Entrance at Van Ness or Fillmore Street.
(2) Section No. 2: Entrance at Fillmore or Scott Streets.
(3) Section No. 3: Entrance at Scott or Baker Streets.
(4) Sections Nos. 4 and 5: Entrance at Baker Street.

(C) All bay craft carrying freight or supplies for points or buildings located anywhere within the boundaries of the Exposition grounds, may deliver same at one of the landing piers or wharves after payment of the tolls and dockage charges as designated by the Director of Works, from which pier or wharf the

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freight or supplies shall be delivered to final destination by the Exposition Terminal Railway Company.

SECTION 6. PILOTS: Each vehicle carrying freight, materials, or supplies which has been permitted to enter the grounds must be accompanied, while within the grounds, by a pilot, for whose services shall be paid a fee of fifty cents per hour or fraction thereof. Payment shall be made at the entrance gate for the first hour and remaining payment shall be made at exit gate.

SECTION 7. EXPOSITION FREIGHT SERVICE: (A) The Exposition Terminal Railway Company will handle various commodities and exhibits and will deliver same at various points within the Exposition grounds. Charges shall be prepaid.

All freight and supplies shall be delivered between the hours of 8 o'clock A. M. and 11 o'clock P. M. by vehicle at entrance, near Laguna and Beech Streets, and by boat at the Ferry landing wharves, Fulton Basin wharf, or Presidio wharf. Such freight will be delivered into the Exposition's depot or warehouses at these points, from which the Exposition will take same and make delivery of it to its final destination in the grounds between the hours of 11 o'clock P. M. and 8:30 o'clock A. M.

(B) A special push car service will be operated by the Exposition Terminal Railway Company at all times during the day for special delivery of freight and supplies. Charges shall be prepaid.

(C) Exhibitors will have use of crane in Machinery Palace for transporting exhibits and materials under regulations provided by the Exposition Company.

SECTION 8. LOADS: (A) No vehicle will be permitted to enter the Exposition grounds with a load or to haul a load upon the grounds which will in the judgment of the Director of Works crush or otherwise destroy the pavements. Any damage to roads or pavements must be made good by owners of vehicles.

(B) No wagon or truck for hauling freight or supplies drawn by more than two horses shall be permitted upon the grounds except by special permit of the Director of Works.

(C) Vehicles hauling loads of over four tons will not be allowed to travel on Exposition roads except under special permit obtained from the Director of Works.

SECTION 9. DELAYED EXHIBITS: Special applications will have to be made to the Director of Works for the handling and moving of live stock and delayed exhibits.

SECTION 10. ADMISSIONS: In addition to the foregoing regulations concerning the use of streets, roads, and paths, all admissions to the grounds and all pass privileges are at all times subject to the charges, regulations, and orders of the Division of Concessions and Admissions. Any abuse of pass privileges or violation of any of the rules and regulations of the Exposition will warrant the removal or exclusion of the persons at fault from the Exposition grounds and the withdrawal of any pass privilege theretofore given him.

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COLLECTION AND DISPOSAL OF GARBAGE

Detailed Requirements

PART XIII

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements.

SECTION 2. WASTE MATERIAL: No person shall throw or deposit any waste material or polluting matter of any kind into any lagoon, lake, or water-way, nor upon any portion of the Exposition grounds, nor on any of the floors of any buildings.

SECTION 3. COLLECTION: A system of collecting garbage during the Exposition period will be installed on the Exposition Grounds by the Exposition. Garbage wagons will call at each building and concession at stated times and as often as may be necessary to remove garbage. These rules refer to the Exposition period only. Special arrangements will be made on application to the Division of Works to cover the pre-Exposition and post-Exposition periods.

All persons producing waste or garbage shall at their own cost, deposit the same at such times and in such convenient location in or about their respective buildings or concessions as may be required by the Director of Works to facilitate the handling of refuse or garbage by the collector.

All participants, owners of buildings or other structures, and persons operating for any purpose buildings, structures, exhibits, or concessions from which waste material results, shall deposit the same in covered receptacles, using as many as may be required for twenty-four hours' service.

Parties producing garbage will be required to keep a sufficient number of receptacles on their premises to contain all garbage. One set of receptacles shall be on the premises while the other is being taken to the incinerator or elsewhere, as may be decided by the Exposition. Receptacles will be cleaned and disinfected by the Exposition.

SECTION 4. WET REFUSE: All damp waste, scraps of vegetables, fruits, etc., kitchen waste and slops, must be deposited in galvanized iron cans twenty (20) inches in diameter and thirty (30) inches in height, with galvanized iron covers. These cans shall be placed in such a position as to facilitate the collection and removal of accumulated garbage.

SECTION 5. DRY REFUSE: All dry paper and other waste material shall be placed in sacks provided for that purpose. Refuse wooden boxes shall be broken up and tied in bundles. Paper boxes and similar refuse must be bound in compact bundles not greater than twenty-four (24) inches in diameter and thirty-six (36) inches in length.

SECTION 6. DÉBRIS: All ashes, oily waste and rags, broken bottles, crockery, tin cans, and like débris, shall be placed in galvanized iron cans twenty (20)

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inches in diameter and twenty-four (24) inches in height, with galvanized iron covers. This débris, under all circumstances, shall be excluded from cans containing other waste material.

SECTION 7. SANITATION: All persons using garbage cans shall adopt such measures as may be necessary to prevent said cans from becoming foul and offensive. Cans shall be tightly covered at all times. Special care must be taken to keep cans in a sanitary and inoffensive condition, cleansed and sterilized as required by the Director of Works.

SECTION 8. RECEPTACLES: Any person requiring garbage cans or sacks shall make application for same at the office of the Director of Works at least twenty-four hours before they are used, stating the number required. The charges for cans and sacks will be as follows:

(A) Cans for wet refuse.....$4.50 each
(B) Cans for débris..... 3.50 each
(C) Canvas sacks..... 1.00 each
(D) Paper sacks..... .10 each

SECTION 9. HOURS OF COLLECTION: All garbage or refuse will be collected by the Exposition between the hours of closing the Exposition at night and seven o'clock in the morning.

SECTION 10. CHARGE FOR COLLECTION: Any person requiring this service will be charged twenty cents per can, sack, or bundle for collecting same as prescribed above. Partially filled cans, sacks, or bundles will be counted as full packages.

SECTION 11. The above Rules and Regulations do not apply to the Main Exhibit Palaces. Rules and Regulations in this regard will be issued by the Division of Exhibits.

TELEPHONE SERVICE

DETAILED REQUIREMENTS

PART XIV

SECTION 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding General Requirements, except Section 19, Part 1, covering payment.

SECTION 2. TELEPHONE SYSTEM: The Exposition Co. will install a Private Branch Exchange connected to the system of The Pacific Telephone & Telegraph Co. and will install a distribution system throughout the Exposition Grounds and in all exhibit palaces.

SECTION 3. KINDS OF SERVICE: The Exposition Co. will supply the following kinds of telephone service:

(A) One Party Measured Service.

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(B) One Party Measured Service with not more than 3 extension telephones.

(C) One Party Measured Service with Coin Collectors.

(D) Private Branch Exchange Service for not less than 4 stations.

(E) Attended Public Pay Station Service in the main exhibit palaces, in the Concessions District, and in the Live Stock Section.

SECTION 4. APPLICATION FOR SERVICE: Application for telephone service shall be filed with the Division of Works, in writing, on the printed form furnished, and the first installment of the fixed charge paid upon notice that the application has been approved.

SECTION 5. SERVICE CONNECTIONS: Where the telephone service to any building will be from the Exposition Co.'s underground system, the Participant shall install a 2-inch black iron pipe from the building to the electric manhole designated by the Exposition Co.

SECTION 6. WIRING: The fixed charge for One Party Telephone covers the running of the required service wires to the building or space within the Exposition Grounds occupied by the Participant, and in addition, the running of not over 50 feet of exposed wiring within said building or space. Where the distance from the Participant's instrument to point of entrance of service into the building or space exceeds 50 feet, or where the wiring is required to be concealed, the additional work will be charged for at the actual cost of the Exposition Co. for labor and material.

Any wiring run between a Participant's P. B. X. switchboard and the stations operated thereform will be charged for, if done by the Exposition Co., at the actual cost of labor and material.

SECTION 7. COIN COLLECTORS: Where coin collectors are installed the service will be measured and the calls charged for in accordance with the rates hereunder. The Participant will be allowed to place his own lock on the coin collector box and shall be entitled to all collections found therein. The Exposition Co. will not be responsible for the accurate operation of the coin collector, but will make all necessary repairs thereto, without charge, which are occasioned by ordinary use.

SECTION 8. OTHER TELEPHONE SYSTEMS AND DEVICES: No telephone systems, lines, instruments, or devices other than those furnished by the Exposition Co. shall be connected to the telephone system or equipment installed by the Exposition Co.

SECTION 9. DAMAGE TO EQUIPMENT: The telephone equipment shall be used in accordance with such rules and regulations as the Exposition Co. may establish and shall not be removed from the building or space occupied by the Participant except by the Exposition Co. The Participant shall be responsible for the loss or damage to any telephone equipment installed for his use unless the loss or damage is due to causes beyond his control.

SECTION 10. CHANGE OF LOCATION: The Exposition Co. will change the loca-

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tion of any telephone equipment from place to place within the Exposition Grounds upon request, and payment by the Participant of the actual cost of making such change, but in no event shall the Participant make any changes in the telephone wiring or equipment.

SECTION 11. LENGTH OF CONVERSATION: Local continuous conversation will be limited to five minutes duration.

SECTION 12. FIXED CHARGES: The Exposition Co. has estimated the cost of installing, maintaining, and dismantling the telephone equipment and distribution system required to enable Participants to share in the telephone service which the Exposition Co. has secured from The Pacific Telephone & Telegraph Co., and has determined upon the following fixed charges as representing the proportionate part of said cost chargeable to the kinds of service listed hereunder:

(A) One Party Stations	$60.00	each
(B) Extension Telephones	10.00	"
(C) Coin Collectors	12.00	"
(D) Private Branch Exchanges:		
For Switchboards with one Operator's Position	100.00	"
Stations	10.00	"
Trunk Lines	40.00	"
Ringing Power for Switchboard	10.00	"

The foregoing fixed charges will be payable in eight (8) equal installments: The first payment upon notice that the Participant's application is accepted, and the other installments at thirty-day intervals thereafter.

SECTION 13. SWITCHING RATES: Inasmuch as the rate per switch paid to the local Telephone Company by the Exposition Co. decreases with the number of switches used per month the Exposition Co., in order to encourage the use of the telephones, will give a part of the saving to the Participant by making a sliding scale rate on switches, as follows:

The first 50 calls in any one month will be charged for at the rate of	5c	each
The second 50 calls at	4½c	"
The third 50 calls at	4c	"
The balance at	3½c	"

All calls referred to above are local calls which terminate within the City and County of San Francisco, and all long distance calls will be charged for at the schedule rates of The Pacific Telephone & Telegraph Co.

SECTION 14. PAYMENT OF BILLS: All bills for fixed-charge installments shall be paid within Ten (10) days from the date rendered, together with the charges for local and long distance calls for the month preceding.

Telephone bills are not subject to discount.

SECTION 15. PERIOD OF SERVICE: The fixed-charge installments named herein are based on a period of service of seven (7) months or more terminating De-

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cember 15th, 1915. The service for shorter periods, or after December 15th, 1915, will be subject to special contract with the Division of Works.

REFRIGERATION SERVICE

Detailed Requirements

PART XV

Section 1. GENERAL: These Detailed Requirements and all persons operating hereunder are subject to the provisions of the preceding "General Requirements," and attention is called particularly to General Requirements, Section 6, Section 18, and Sections 19, 21, and 22.

Section 2. REFRIGERATION SERVICE: Refrigeration Service will be available in the Palaces of Horticulture and Food Products, for temperatures not lower than 20 degrees F. Lower temperatures may be obtained under special contracts arranged for in advance.

Section 3. DRAWINGS, PLANS, AND SPECIFICATIONS: For all refrigerator boxes or similar structures erected by or for Participants, in which refrigeration is desired, drawings, plans, and specifications covering the structures and piping connected therewith shall be submitted to and approved by the Director of Works before construction is started, and the work done under his direction as hereinbefore outlined.

Section 4. CONSTRUCTION FEES: Any Participant desiring to connect to the Exposition Company's refrigeration system shall make application to the Director of Works for permit, and the Participant or his contractor shall pay in cash the amount charged for each connection. The charge for each service connection will be twenty-five dollars ($25.00), which covers the cost of inspection and the work done by the Exposition Company in connection with the Participant's service piping.

Section 5. SERVICE CONNECTIONS: The Participant shall run, at his own expense, all service piping from the Exposition Company's mains to his installation, and shall furnish and install all valves and fittings required for connection to the mains. All service piping and insulation used in connection therewith shall be subject to the approval of the Director of Works. The Exposition Company will provide suitable tees in its mains to which the Participant shall make connection.

Section 6. REFRIGERATOR BOXES: The design and construction of refrigerator boxes shall be subject to the approval of the Director of Works, and the requirements are as follows:

(A) Boxes for temperatures below 30 degrees F. shall have an insulation equal, in the opinion of the Director of Works, to six inches of granulated cork, the sides of double T. & G., having a tar paper between. Triple glass construction with air spaces shall be used for all windows.

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(B) Boxes for temperatures between 45 and 30 degrees F. shall have insulation equal, in the opinion of the Director of Works, to 6 inches of kiln dried shavings with double T. & G. sides, having tar paper between, and double glass windows.

(C) Boxes for temperatures down to 45 degrees F. shall have insulation equal, in the opinion of the Director of Works, to 4 inches of kiln dried shavings, and all windows shall be double glass.

The piping in all boxes shall be subject to the approval of the Director of Works as regards quantity of piping, its size, and the method of construction employed.

SECTION 7. TESTS: Before service is rendered, all piping installed by the Participant shall be tested in the presence of the authorized representative of the Director of Works, and all joints and connections made tight to his satisfaction.

SECTION 8. RATES: The following rates are based on average cold-storage conditions of operation and do not contemplate the frequent changing of materials stored or the freezing of any solids or liquids. Variations from average conditions or the use of electric lights in the storage space will be subject to special rates, obtainable from the Director of Works upon application.

(A) For temperatures from 20 to 25 degrees F. the rate will be 4c per month per square foot of insulated surface, and 8c per month per square foot for triple glass surface.

(B) For temperatures from 25 to 30 degrees F. the rate will be 3.4c per month per square foot of insulated surface, and 6.8c per month per square foot for triple glass surface.

(C) For temperatures from 30 to 40 degrees F. the rate will be 3c per month per square foot of insulated surface, and 6c per month per square foot for double glass surface.

(D) For temperatures from 40 to 50 degrees F. the rate will be 2.4c per month per square foot of insulated surface, and 4.8c per month per square foot of double glass surface.

(E) For temperatures above 50 degrees F. the rate will be 2.1c per month per square foot of insulated surface and 4.2c per month per square foot of double glass surface.

Single glass will be allowed for temperature above 50 degrees F. and the rate will be 10c per month per square foot of surface.

Participants having large or unusual requirements for refrigeration may secure from the Director of Works special rates by submitting detailed plans of the refrigeration space and the various factors which affect the amount of refrigeration service required.

SECTION 9. PERIOD OF SERVICE: The rates named herein are for a period of service of not less than nine (9) months, ending December 15, 1915. Service for shorter periods, or after December 15, 1915, will be subject to special rates, which may be secured from the Director of Works upon application.

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SALT WATER SUPPLY

DETAILED REQUIREMENTS

PART XVI

SECTION 1. GENERAL: The Detailed Requirements and all persons operating hereunder are subject to the provisions of the "General Requirements" and attention is called particularly to General Requirements, Section 6, Section 17, Sections 21 and 22.

SECTION 2. SALT WATER SERVICE: Salt water will be supplied for cooling purposes in the Palace of Machinery only, under a head of 20 to 28 pounds from an elevated storage tank outside of the building.

SECTION 3. CONSTRUCTION FEES: Any Participant desiring to connect with the Exposition Company's salt-water system shall make application to the Director of Works for permit and the Participant or his Contractor shall pay in cash the amount charged for each connection.

The charge will cover the cost of inspections, furnishing and installing of the meter and making tap to the salt-water main by the Exposition.

The charge for connection will be:

1-inch tap	$10.00
1½-inch tap	15.00
2-inch tap	20.00

The Participant shall run pipe from tap on main and leave suitable connections for installing meter at point designated.

SECTION 4. RATES:

For an average of 15,000 gallons per day or less.....15c per 1000 gals.
For an average of from 15,000 gallons to 25,000 gallons per day.....13c per 1000 gals.
For an average of from 25,000 gallons to 40,000 gallons per day.....11c per 1000 gals.
For an average of over 40,000 gallons per day.....10c per 1000 gals.

SECTION 5. PERIOD OF SERVICE: The rates named herein are for service during the entire Exposition period. Service for shorter periods or after the official closing of the Exposition will be subject to special rates which may be secured from the Director of Works upon application. Service previous to the official opening of the Exposition will be at the regular rates as given above.

SECTION 6. TIME OF SERVICE: Service will be given between the hours of 8:00 A.M. and sundown except by special arrangement with the Division of Works.

CHAS. C. MOORE, President.

Attest:
RUDOLPH J. TAUSSIG, Secretary.

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PART II OF APPENDIX

OFFICIAL CLASSIFICATION OF EXHIBIT DEPARTMENTS

Fine Arts

Department A

(Open to works of United States and Foreign Artists, whether previously exhibited or not.)

GROUP 1—PAINTINGS AND DRAWINGS

Class 1. Paintings on canvas, wood, or metal, by all direct methods in oil, wax, tempera, or other media; enamels; paintings on porcelain, faience, and on various preparations, of purely pictorial intent; mural paintings in any media.

Class 2. Paintings and drawings in water color, pastel, chalk, charcoal, pencil, and other media, on any material. Miniatures on ivory or ivory substitutes.

GROUP 2

Class 3. Etchings, engravings, and block prints in one or more colors. Autolithographs with pencil, crayon, or brush.

GROUP 3—SCULPTURE

Class 4. Works in the round, high, and low relief; busts, single figures, and groups in marble, bronze, or other metal; in terra cotta, plaster, wood, ivory, or other materials.

Class 5. Models in plaster and terra cotta.

Class 6. Medals, plaques, engravings on gems, cameos, and intaglios.

Class 7. Carvings in stone, wood, ivory, or other materials.

GROUP 4—LOAN COLLECTION

Selections of especially interesting art works of various kinds, from institutions and private collections.

The following will not be admitted to the Fine Arts Department.

1.—Copies; works resulting from industrial-mechanical processes.

2.—Pictures, drawings, or engravings not framed.

3.—Works of sculpture in unbaked clay, or any form of modeling wax.

4.—Architectural ornaments except such as may be included in Group 3.

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EDUCATION

DEPARTMENT B

GROUP 5—ELEMENTARY EDUCATION

Class 8. Kindergarten.
Class 9. Elementary grades.
Class 10. Training and certification of teachers.
Class 11. Continuation schools, including evening schools, vacation schools, and schools for special training.
Class 12. Vocational education toward specific training and occupation.

Legislation, organization, general statistics.
School supervision and school management.
Buildings; plans, models; school hygiene.
Methods of instruction; results obtained.

GROUP 6—SECONDARY EDUCATION

Class 13. High schools and academies, manual training schools, commercial high schools.
Class 14. Training and certification of teachers.

Legislation, organization, statistics.
Buildings: plans and models.
Supervision, management, methods of instruction, results obtained.

GROUP 7—HIGHER EDUCATION

Class 15. College examination and inspection boards in relation to college entrance requirements.
Class 16. Colleges and universities.
Class 17. Scientific, technical, and engineering schools and institutions.
Class 18. Professional schools.
Class 19. Libraries.
Class 20. Museums.

Legislation, organization, statistics.
Buildings: plans and models.
Curricula, regulations, methods, administration, investigations, etc.

GROUP 8—SPECIAL EDUCATION IN FINE ARTS

(Institutions for Teaching Drawing, Painting, and Music)

Class 21. Art schools and institutes.

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Class 22. Schools and departments of music, conservatories of music.

Methods of instruction; results obtained.
Legislation, organization, general statistics.

GROUP 9—SPECIAL EDUCATION IN AGRICULTURE

Class 23. Agricultural education in the elementary and secondary schools. Boys' and Girls' Agricultural Clubs.

Class 24. Agricultural colleges and departments, experiment stations, instruction in forestry; methods and results.

Curricula, experiments, and investigations, results.
Methods of transportation and shipment.
Legislation, organization, general statistics.
Buildings: plans and models.

GROUP 10—SPECIAL EDUCATION IN COMMERCE AND INDUSTRY

Commercial Education

Class 25. Business and commercial schools, higher instruction in commerce.

GROUP 10-A

Industrial Education

Class 26. Industrial and trade schools, evening industrial schools.
Class 27. Education of the Indian.
Class 28. Education of the Negro.

GROUP 11—EDUCATION OF THE SUBNORMAL

Class 29. Education of defectives and delinquents.
Class 30. Institutions for the blind, publications for the blind.
Class 31. Institutions for the deaf and dumb.
Class 32. Institutions for the feeble-minded.
Class 33. Special schools for cripples.
Class 34. Open-air schools for tubercular children, etc.

Management, methods, courses of study, results.
Special appliances for instruction.
Legislation, organization, statistics.
Buildings: plans and models.

GROUP 12—SPECIAL FORMS OF EDUCATION, TEXTBOOKS, SCHOOL FURNITURE AND SCHOOL APPLIANCES

Class 35. Summer schools.

Class 36. Extension courses; popular lectures and people's institutes; correspondence schools.

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Class 37. Scientific institutions, societies, and associations; scientific expeditions and investigations.
Class 38. Educational publications, textbooks, etc.
Class 39. School furniture, school appliances.

GROUP 13—PHYSICAL TRAINING OF THE CHILD AND ADULT

Class 40. Lectures and conventions, physiology and hygiene of exercise, anthropometry, school games, school exercises, theory of physical training, etc.
Class 41. Exhibits of work, photographs and plans of gymnasiums, fields, classes, teams, etc.
Class 42. Exhibits of class work illustrative of school work, systems of gymnastics, etc.

Social Economy

Department C

GROUP 14—AGENCIES FOR THE STUDY, INVESTIGATION, AND BETTERMENT OF SOCIAL AND ECONOMIC CONDITIONS

Class 43. Public bureaus ,offices, commissions, etc.
Class 44. Societies: humane, institutional, church, and other. Private agencies, commercial organizations, museums, etc.
Class 45. Economic and social reform associations, special educational agencies, literature, congresses.
Class 46. Surveys and special community investigations.

GROUP 15—ECONOMIC RESOURCES AND ORGANIZATIONS

Class 47. Physical resources and characteristics, location and organization of industrial enterprises, general industrial statistics. Governmental promotion of industry.
Class 48. Conservation of national resources.

GROUP 16—DEMOGRAPHY, EUGENICS

Class 49. Composition, characteristics, and movement of population; statistical methods, machines, and appliances employed.
Class 50. Immigration.
Class 51. Eugenics.

GROUP 17—HYGIENE

Class 52. Vital statistics.
Class 53. Growth and nutrition, food.
Class 54. Hygiene of infancy and childhood.
Class 55. Communicable diseases.
Class 56. State and municipal hygiene, public-health work, and health laboratories.

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Class 57. Care of the sick, nursing. Care of defectives. Life saving.
Class 58. Industrial hygiene, occupational diseases.
Class 59. Special hygiene: traffic and transportation, military, naval, tropic, mental, sex, dental.
Class 60. Educational publicity.

GROUP 18—ALCOHOL, DRUGS, AND TOBACCO

Class 61. Physiological and other effects of alcohol, drugs, and tobacco. Statistics of consumption and economic cost. Organized efforts for lessening intemperance and use of drugs and tobacco.
Class 62. Legal regulation of trade in liquor, drugs, and tobacco. Private and public management of liquor trade.

GROUP 19—LABOR

Class 63. Regulation and inspection of factories, mines, and other work. Woman and child labor.
Class 64. Organization of employees. Organization of employers.
Class 65. Systems of industrial remuneration. Wages and cost of living.
Class 66. Industrial disputes and their settlement. Statistics of unemployment, treatment of unemployed.
Class 67. Statistics of industrial accidents and means for prevention. Employers' liability. Workmen's compensation.
Class 68. Welfare work.

GROUP 20—COÖPERATIVE INSTITUTIONS

Class 69. Coöperative societies for production and distribution.
Class 70. Coöperative credit and banking institutions, rural credit systems.
Class 71. Coöperative building societies.
Class 72. Coöperative agricultural societies.

GROUP 21—BANKS AND PROVIDENT INSTITUTIONS

Class 73. National, state, and private banks; loan and trust companies.
Class 74. Savings banks, postal savings banks, provident savings and loan institutions.
Class 75. Insurance: life, fraternal, accident, fire, marine, fidelity, and other forms.
Class 76. Social insurance. Retirement provisions for public employees.

GROUP 22—CHARITIES AND CORRECTION

Class 77. Care of dependent and neglected children.
Class 78. Institutional care of destitute adults. Institutional care of defectives.
Class 79. Relief of needy families in their homes.
Class 80. Preventive social work. Supervisory and educational movements.
Class 81. Statistics of crime. Identification of criminals.

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Class 82. Prisons, jails, work-houses, lock-ups. Prison labor, peonage.
Class 83. Reformatories; education of delinquents.
Class 84. The juvenile offender. Defective delinquents.
Class 85. Indeterminate sentence, probation, and parole. Aid and relief.

GROUP 23—PREPARATION, ENACTMENT, AND ENFORCEMENT OF LEGISLATION

Class 86. Legislative reference bureaus, commissions, etc. Operation of initiative, referendum, and recall. Results of efforts for uniform State and municipal legislation. Police systems and police administration. Courts. Reform in court procedure.

GROUP 24—NOMINATION AND ELECTION SYSTEMS

Class 87. Qualifications of voters. Party organization. Nomination and election systems. Australian ballot, short ballot, voting machines. Restrictions and publicity of election expenditures. Corrupt practice legislation.

GROUP 25—PUBLIC UTILITIES AND THEIR REGULATION

Class 88. State, municipally, and privately owned utilities. Public service commissions.

GROUP 26—MUNICIPAL ADVANCEMENT

Class 89. Municipal statistics.
Class 90. Local government and the State. Charters. Systems of government.
Class 91. Municipal activities; methods, instrumentalities, and results.
Class 92. Public and private agencies for promoting economy and efficiency.

GROUP 27

Class 93. Town and city planning. Housing.

GROUP 28—RECREATION

Class 94. Parks, playgrounds, and recreation centers. Baths, swimming pools, and bathing beaches. Utilization of schoolhouse as social center. Public entertainments. Commercial recreation.

LIBERAL ARTS

DEPARTMENT D

GROUP 29—TYPOGRAPHY—VARIOUS PRINTING PROCESSES

(Equipment, Processes, and Products.)

Class 95. Machinery, presses, and other apparatus used in typography, lithography, copper-plate printing, autography, engraving on stone, copper, zinc, aluminum, etc.
Class 96. Machinery used for photo-mechanical printing.

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Class 97. Equipment, apparatus, and products of type foundries, and other auxiliary and miscellaneous printing office appliances and labor-saving devices of stereotyping, electrotyping, electrolytic appliances and processes; electrothermic appliances and processes.

Class 98. Machines for setting and distributing type, casting type, etc.

Class 99. Special equipment for printing bank notes, postage stamps, bonds, etc.

Class 100. Typewriting machines and devices for duplication of copy, mimeograph, neostyle, addressing machines, dictating machines, etc.

Class 101. Specimens in black and color typography, lithography, copper-plate printing, and other methods of printing.

Class 102. Specimens of engravings and drawings obtained, reproduced, enlarged, or reduced by photo-mechanical processes.

GROUP 30—BOOKS AND PUBLICATIONS—BOOK BINDING

Class 103. Newspapers, reviews, and other periodicals and publications; newspaper and magazine offices or plants shown by models or photographs; means and methods of advertising, news gathering, etc.; methods and processes of publication. (Technical and trade publications may be displayed in the Departments with which they are allied).

Class 104. Collections of books, forming special libraries.

Class 105. New books and new editions of old books.

Class 106. Drawings for book, newspaper, and magazine illustration, atlases, albums.

Class 107. Musical publications.
Class 108. Musical scores. } May be displayed in Group 37.

Class 109. Equipment and processes of making stitched books and of book binding.

Class 110. Specimens of binding, stamping, embossing, gilding, etc.

Class 111. Artistic book binding.

GROUP 31—MAPS AND APPARATUS FOR GEOGRAPHY, COSMOGRAPHY, TOPOGRAPHY

Class 112. Maps, charts, and atlases; geographical, topographical, geological, hydrographical, astronomical, etc.

Class 113. Topographic models in relief.

Class 114. Terrestrial and celestial globes; statistical works and tables.

Class 115. Statistical tables and nautical almanacs for the use of astronomers, surveyors, and seamen.

GROUP 32—MANUFACTURE OF PAPER

(Raw Materials, Equipment, Processes, and Products.)

Class 116. Collections of raw materials used in the manufacture of paper and cardboard.

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Class 117. Equipment and processes used in making pulp from rags, straw, wood, etc.

Class 118. Appliances and processes used in the manufacture of paper by hand.

Class 119. Equipment and processes used in the manufacture of paper by machinery. Machines for producing endless paper. Apparatus for cutting, glazing, calendering, polishing.

Class 120. Apparatus and processes used in the manufacture of special papers and of cardboard.

Class 121. Paper mill products, including papers of common and special grades not made up: paper for newspapers, books, maps, bank notes, drawings; photographic and art papers; paper for stationery; packing, wrapping, and blotting paper; filter and laboratory paper; building and stock for wall paper; mill board, and cardboard; papier maché, compressed paper, etc.

GROUP 33—PHOTOGRAPHY

(Equipment, Processes, and Products.)

NOTE: Photographs relating to any exhibit may be shown in connection therewith in any exhibit palace.

Class 122. Materials, instruments, and apparatus of photography, equipment of photographic studios, stereopticons, mutographs, kinetoscopes, moving pictures, etc.

Class 123. Negative and positive photography on glass, paper, wood, cloth, films, enamel, etc. Photogravure in intaglio and in relief; photocollography, photolithography. Stereoscopic prints. Enlarged and micrographic photographs. Color photography. Direct, indirect, and photo-color printing. Scientific and other applications of photography.

Class 124. Pictorial photography.

GROUP 34—INSTRUMENTS OF PRECISION, PHILOSOPHICAL APPARATUS, ETC., COINS AND MEDALS

(Equipment, Processes, and Products.)

Class 125. Laboratory apparatus for physical investigations; mathematical instruments; instruments for practical geometry; instruments for refined physical measurement; sensitive balances, high grade thermometers, indicators, integrators, chronographs, etc. Lecture room apparatus.

Class 126. Instruments for and methods of land surveying, including plane, topographic, and geodetic surveying. Surveyors' compasses, leveling instruments, transits, geographic instruments, pedometers, heliotropes, etc.

Class 127. Astronomical instruments and methods; telescopes and fittings, astronomical photographic apparatus and photographs; reflectors, helioscopes, astronomical clocks.

Class 128. Navigation instruments and equipment; including sextants, mariners' compasses, alidades, patent logs, sounding machines, chronometers, etc.

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Meteorological instruments, thermometers, barometers, wind current meters, etc.

Class 129. Electrical instruments and apparatus for scientific investigations or research work; electrical furnaces for laboratory use; thermal batteries; electrical standards.

Class 130. Photometry: apparatus for determining the intensity, distribution, and illuminating power of light. Standards.

Class 131. Transferred to Class 542.

Class 132. Optical instruments for general use; telescopes, binoculars, opera, field and marine glasses, magnifying glasses. Lenses for testing vision; eye glasses and spectacles.

Class 133. Calculating machines; cash registers; scales, weights, and measures of various countries.

Class 134. Equipment for the manufacture of coins and medals. Appliances for weighing the metal, testing the standard of alloys, melting and casting, rolling, stamping out, milling, washing, verification of weight of coins, counting, striking, and checking them before delivery; equipment for the preparation of stamps and dies, coins and medals; treatises upon coins, economical, statistical, etc.

GROUP 35—MEDICINE AND SURGERY

Class 135. Appliances, instruments, and apparatus for work in anatomy, histology, and bacteriology; anatomical models; normal and pathological, histological, and bacteriological preparations.

Class 136. Apparatus for sterilizing instruments and wound-dressing appliances, and for other purposes of sterilization.

Class 137. Instruments for general and special medical research.

Class 138. Instruments and apparatus for general, special, and local surgery.

Class 139. Electricity as applied in therapeutics, surgery, and dentistry; X-ray apparatus; electric sterilizers, ozonizers.

Class 140. Appliances for dressing wounds.

Class 141. Apparatus for plastic and mechanical prosthesis; orthopedic apparatus; apparatus for hernia; apparatus for medical gymnastics; material, instruments, and apparatus for special therapeutics.

Class 142. Instruments and apparatus used in the practice of dentistry; dental surgery, bridge and plate work, etc.

Class 143. Appliances for the use of the infirm, of invalids, and of lunatics; artificial limbs, artificial eyes.

Class 144. Chests and cases of instruments and medicines for the use of surgeons of the army and navy; appliances for rendering aid to the wounded on the field of battle; appliances for rendering aid in case of accident; ambulance service, etc.

Class 145. Appliances for rendering aid to persons apparently drowned or asphyxiated.

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Class 146. Instruments and appliances for veterinary surgery.
Class 147. Equipment and utensils used by druggists and pharmacists.

GROUP 36—CHEMICAL AND PHARMACAL ARTS

(Equipment, Processes, and Products.)

Class 148. Laboratory apparatus and utensils: lamps, blow-pipes; presses, drying ovens, filters; furnaces, ovens, etc., used in chemical laboratory work.
Class 149. Apparatus and instruments for making industrial and commercial analyses.
Class 150. Equipment and processes used in the chemical treatment of animal substances, with their products; superphosphates, soaps, candles, glycerine.
Class 151. Apparatus and processes for the production by electrolysis of hydrogen peroxide, chlorine, hypochlorites, chlorates, soda, bleaching materials, and various other chemicals. Also electro-thermal apparatus and processes for chemical manufacture not otherwise specified.
Class 152. Equipment and processes used in the manufacture of vegetable essences.
Class 153. Transferred to Class 776.
Class 154. By-products for pharmacal use obtained from the treatment of mineral substances such as petroleum and coal tar derivatives, etc.
Class 155. Equipment and processes used in treating waste matter from factories (by chemical or electrical methods) with a view to permitting their return to water courses or to the atmosphere.
Class 156. Equipment for charcoal work and the production of various derivatives; methylated spirit, acetone, acetic acid, tar, wood alcohol, pyroligneous acid. Products of charcoal burning.
Class 157. Apparatus and processes for the compression and liquefaction of gas. Liquefied gases.
Class 158. Apparatus and processes for the manufacture of artificial textiles.
Class 159. Appliances and processes used in the manufacture of pharmacal products. Raw materials of pharmacy; sera and other biological products, as bacterines, baccines, tuberculines, etc.; drugs of mineral, animal, and vegetable origin, crude, powdered, and compound; special appliances for collecting, cleaning, peeling, slicing, cutting, and garbeling crude drugs.
Class 160. Disinfectants; standardization of disinfectants; manufacture of disinfectants; drug preservation, drug sterilization, ampuls, etc.
Class 161. Acids, alkalies, salts, and compounds of every kind. Chemical elements derived from their compounds and chemical compounds not otherwise classified.
Class 162. Refined sulphur and derivatives from sulphur.
Class 163. Equipment and processes used, and products obtained in the manufacture of phosphorus and matches.
Class 164. Drug adulteration; methods of adulteration; methods of detecting adulteration.

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Class 165. Various products of chemical industries; tanning materials, waxes, essential oils, glue, and gelatine; perfumes, cosmetics, and extracts; various glazes, printing ink, blacking.
Class 166. (Transferred to Manufactures and Agriculture.)
Class 167. (Transferred to Mines and Metallurgy.)
Class 168. Alcohols modified for industrial purposes.
Class 169. Equipment and appliances for producing calcium carbide, and for the storage of acetylene gas.
Class 170. Insecticides; fungicides; parasiticides and methods of manufacture and use.
Class 171. Pyrotechnics, bombs, signals, etc.

GROUP 37—MUSICAL INSTRUMENTS

(Materials, Processes, and Products.)

Class 172. Materials and processes for manufacturing musical instruments.
Class 173. Wind instruments of metal or wood, having openings with or without keys, simple mouth pieces, pipes or reeds, with or without reservoir of air.
Class 174. Metal wind instruments, plain or with lengthening pieces, slides, pistons, keys, or reeds.
Class 175. Wind instruments with keyboard; organs, accordions, etc.
Class 176. Stringed instruments without keyboard, played with the fingers or with a bow.
Class 177. Pianos, player pianos, and other stringed instruments with keyboard.
Class 178. Instruments played by percussion or friction; drums and cymbals.
Class 179. Automatic instruments: barrel organs, bird organs, musical boxes, piano and organ players, bandonians, orchestrions, etc.
Class 180. Phonographs, talking machines, graphophones, and similiar devices.
Class 181. Separate parts of musical instruments and orchestral appliances; strings for musical instruments.

GROUP 38—THEATRICAL APPLIANCES AND EQUIPMENT

Class 182. Interior equipment and special furniture for theaters.
Class 183. Arrangements for preventing and extinguishing fires. (See also Class 463.)
Class 184. Scenery; curtains, metallic curtains, gauzes, nets; colors, brushes, palettes, cordage; special iron work; lighting; electrical apparatus, candelabra, colored screens, apparatus for imitating flame, smoke, lightning, fireworks; projections; specters; phosphorescence.
Class 185. Machinery; windlasses, drums, chests, traveling platforms, slides, trolleys, traps, counterweights, flies.
Class 186. Costumes; special materials, printing on different materials, armor; jewelry; foot-gear; dancing shoes; wigs, beards, make-up; paints for making up.
Class 187. Properties for the imitation of various phenomena, such as thunder,

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hail, wind, snow, gun-firing; cardboard work of all kinds; furniture made in perspective.

GROUP 39—ELECTRICAL METHODS OF COMMUNICATION

Class 188. Telephone, telegraph, and wireless instruments, dictographs, devices for the deaf, etc.; their apparatus and specific equipment.

Class 189. Fire alarm systems and equipment; police signals and patrol box systems and equipment; electric annunciators and other electric signal apparatus not classified.

GROUP 40—CIVIL AND MILITARY ENGINEERING

Class 190. (Transferred to Mines and Metallurgy.)

Class 191. Methods of testing structural materials, and apparatus used therefor.

Class 192. (Transferred to Class 215.)

Class 193. Methods used in earth work, such as the construction of canals, railroads, levees, embankments, etc.

Class 194. Equipment and methods for the construction and maintenance of roads, streets, promenades, and highways.

Class 195. Equipment for and methods used for preparing foundations; piles, pile-drivers, screw-piles, pneumatic apparatus, caissons, diving apparatus, wire trams, etc.

Class 196. Passenger elevators, pneumatic tubes, etc.

Class 197. Military defenses and accessories: engineering material employed in the operation of an army.

Class 198. (Transferred to Classes 197 and 532.)

Class 199. Equipment for and methods used in storing and distributing water. (See Class 759 for special methods in mining.)

Class 200. Equipment for and methods of city sanitation.

GROUP 41—MODELS, PLANS, AND DESIGNS FOR PUBLIC WORKS

Class 201. Roads and other public highways. Construction and maintenance of streets in cities.

Class 202. Inland navigation; improvement of rivers, construction of canals, dams, locks, lifts, ship railways, reservoirs, spillways, and feeders; dredges, pile sinkers, pile drivers, current deflectors, scraping and water-jet devices for removing sand-bars, etc.; pumping stations, mechanical towing and warping; equipment used for the development of river ports.

Class 203. Sea ports (general arrangements); piers, docks, jetties, basins; equipment for development (not including shipping).

Class 204. Bridges and viaducts; railway, road, and foot bridges.

Class 205. Maritime canals.

Class 206. Protection against flooding by rivers or by sea; levees, dikes, and sea walls.

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Class 207. Railways as regards plan and profile of the line, and engineering works, subways, elevated lines, tunnels.

Class 208. Statistics, maps, and publications relative to public works; transactions and other features pertaining to engineering societies.

GROUP 42—ARCHITECTURE

Class 209. Drawings, models, and photographs of completed buildings.

Class 210. Drawings, models, and photographs of artistic architectural details.

Class 211. Designs for mosaics and for mosaic and leaded glass.

GROUP 43—ARCHITECTURAL ENGINEERING

Class 212. Models and working plans of public and commercial buildings, large and small dwelling houses, flats, apartment houses, and other architectural structures.

Class 213. Models, detail drawings, and specifications for foundations, walls, partitions, floors, roofs, and stairways, wood and metal framing, etc.

Class 214. Designs and models of special contrivances for safety, comfort, and convenience in the operation of moving stairways, doors, windows, house signals, fire escapes, ventilators, etc.

Class 215. Working plans for the trades, mason, carpenter, etc., connected with building construction; designs and models of bonds, arches, coping, vaulting, etc.; plastering and construction of partitions.

MANUFACTURES AND VARIED INDUSTRIES

DEPARTMENT E

GROUP 44—STATIONERY, DESK ACCESSORIES, ARTISTS' MATERIALS

Class 216. Equipment for and processes used in making or preparing stationery, account books, copy books, envelopes, bags, wrappers.

Class 217. Made-up paper and cardboard; ruled, bordered, or ornamented paper, note paper, envelopes, pockets, bags; school copy books, memorandum books, note books, letter-copying books, account books, book covers; menu cards, playing cards, paper boxes, cases; packages of cigarette papers, etc.

Class 218. Desk furnishings, inks, pens, pencils, penholders, crayon holders, wax and wafers, paper weights, ink stands, letter presses, etc.

Class 219. Artists' materials for painting, architecture, sculpture, pyrography, and drawing; canvases, panels, crayons, brushes, hair pencils; mathematical instruments for architects, etchers, engravers, burners, sculptors; tracing papers and cloths; parchments; colors, varnishes, charcoals, pastels, stumps, lay figures, easels; color boxes and other artists' material not named above.

GROUP 45—CUTLERY

Class 220. Special equipment for the manufacture, grinding, and polishing of cutlery.

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Class 221. Table cutlery, pocket knives, knives with fixed blades.
Class 222. Cutlery for gardens, and for various trades.
Class 223. Scissors and work-box accessories.
Class 224. Razors of all kinds.
Class 225. Fine cutlery in polished steel.
Class 226. Small silversmiths' ware.
Class 227. Side arms of all kinds.

GROUP 46—SILVERSMITHS' AND GOLDSMITHS' WARE

(Appliances, Processes, and Products.)

Class 228. Special equipment for manufacture; hand tools; outfits for casting; machinery (lathes, scales, etc.); outfits for electro-plating, etc. Methods of work.
Class 229. Goldsmiths' and silversmiths' work for religious or common uses in gold, silver, bronze, or other metal; plated ware; articles gilt or silver-plated by any process.
Class 230. Enameled work: goldsmiths' enamel; enamels painted upon metal.

GROUP 47—JEWELRY

(Equipment, Processes, and Products.)

Class 231. Special equipment. Methods of work.
Class 232. Fine jewelry; gold and silver jewelry; jewelry in platinum, aluminum, etc.; jewelry set with precious stones; jewelry in debased gold for exportation.
Class 233. Lapidary work; diamond cutting; cutting of gems; engraving of fine stones; engraving of hard cameos and of shells.
Class 234. Imitation lapidary work. Imitation of precious stones, pearls, etc.
Class 235. Gilt jewelry; imitation jewelry in copper and other metals; steel jewelry; mourning jewelry in jet and glass; jewelry in coral, amber, mother-of-pearl, etc.

GROUP 48—CLOCK AND WATCH MAKING

(Equipment, Processes, and Products.)

Class 236. Special equipment for manufacturing clocks and watches; hand tools; machine tools (lathes and other tools); measuring instruments.
Class 237. Preparation of various metals used by watch and clock makers; separate parts of watch and clock work; springs; watch cases in precious or common materials; holes and fittings in rubies or in other jewels; enameled or other dials, etc.
Class 238. Clocks for churches and public buildings, time recorders.
Class 239. Astronomical clocks. Marine chronometers.
Class 240. Clocks moved by electricity, air, or water.
Class 241. Ornamental clocks and timekeepers; regulators; alarm clocks.
Class 242. Watches; pocket chronometers; watchmen's time registers.

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Class 243. Metronomes, various recording instruments. Clepsydras and hour glasses.

Class 244. Chimes connected with clock work.

GROUP 49—OBJECTS EXHIBITED MORE FOR THEIR ORNAMENTAL DESIGN THAN FOR THEIR UTILITY

Class 245. Special designs and patterns in glass.

Class 246. Special designs in earthenware, pottery, or porcelain.

Class 247. Special designs in metal.

Class 248. Special designs in leather.

Class 249. Special designs in wood.

Class 250. Special designs in textiles.

GROUP 50—ORNAMENTAL PRODUCTIONS IN MARBLE, BRONZE, CAST IRON, AND WROUGHT IRON

(Equipment, Processes, and Products.)

Class 251. Special equipment for the manufacture of ornamental metal objects; types of foundries; patterns and molds. Outfit for and specimens of repoussé work; processes for mechanical reduction.

Class 252. Reproductions of works of art in marble, stone, plaster, terra cotta, wax, etc. Ornamentally stamped and damascened metals.

GROUP 51—LEADED, STAINED, AND MOSAIC GLASS

Class 253. Glass for churches, public buildings, and private dwellings. Specimens of various kinds of glass used for decorative windows. Special enamels.

GROUP 52—BRUSHES, FINE LEATHER ARTICLES, FANCY ARTICLES, AND BASKET WORK

(Equipment, Processes, and Products.)

Class 254. Equipment and methods used in the manufacture of brushes, fine leather articles, fancy articles, and basket work.

Class 255. Brushes; toilet brushes designated as fine brushes; brushes for household, harness, and stable use, etc., designated as coarse brushes; brushes for house painting, designated as paint brushes; feather brushes; brooms; floor brushes.

Class 256. Fine leather goods; scabbards, portmonnaies, portfolios, toilet cases, note-book covers, cigar cases, small objects and fancy articles in skins; clasps for portmonnaies and handbags.

Class 257. Fancy articles; work boxes and small fancy furniture; liquor cases, glove boxes, jewel cases; turned articles, engine turned, carved, engraved in ivory, tortoise shell, mother-of-pearl, etc., pipes and smokers' articles, snuff boxes; toilet and other combs in ivory, tortoise shell, horn, celluloid, boxwood, etc.; various articles in lacquer work, small bronzes.

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Class 258. Basket work; basket and hampers for common use; fancy baskets for confectioners, for household use, traveling, etc.

GROUP 53—ARTICLES FOR TRAVELING AND FOR CAMPING. INDIA RUBBER AND GUTTA PERCHA INDUSTRIES

Class 259. Trunks, valises, bags, satchels, baskets, dressing and traveling cases; packing cases and boxes; shawl straps, etc. Locks and other fittings for trunks, valises, etc. Cushions. Alpenstocks, grapnels, parasols. Various requisites for travelers.

Class 260. Portable equipment specially prepared for traveling and for scientific expeditions; outfits for geologists, mineralogists, naturalists, colonists, pioneers, explorers, etc.

Class 261. Tents and accessories. Beds, hammocks, seats, folding chairs, and other camp furniture and equipment. Portable houses.

Class 262. Tents and furniture of military types.

Class 263. Equipment and methods used in the manufacture of India rubber and gutta percha goods.

Class 264. Commercial products of the India rubber and gutta percha industry. Waterproof clothing and boots and shoes. Rubber floor covering. Substitutes for rubber.

GROUP 54—HUNTING EQUIPMENT AND PRODUCTS OF HUNTING

Class 265. Sportsmen's and trappers' arms and accessories; sportsmen's ammunition.

Class 266. Hunting equipment; appliances for training dogs.

Class 267. Material, dress, and equipment for games and sports. Sporting goods and supplies; track paraphernalia.

Class 268. Skins and furs in the rough; skins prepared for the furrier. Taxidermists' work.

Class 269. Horn, ivory, bone, tortoise shell.

GROUP 55—FISHING EQUIPMENT AND PRODUCTS

Class 270. Floating appliances used in fishing. Nets, tackle, boats; devices and implements for sea fishing. Nets, traps, and appliances for fresh-water fishing.

Class 271. Anglers' apparel, rods, reels, and lines.

Class 272. Machines and equipment for making nets.

Class 273. Sea and fresh-water pearls; pearl shells and mother-of-pearl; sponges; corals.

GROUP 56—TOYS

Class 274. Equipment and processes used in the manufacture of toys.

Class 275. Playthings: dolls, talking dolls and accessories, playthings in metal, dolls' dinner and tea services, children's watches, mechanical toys, arms and equipment for children, musical instruments, dolls' furniture, horses, animals,

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carts, toys in India rubber and in gold beaters' skin, scientific and educational toys. Games. Children's books.

GROUP 57—PERMANENT DECORATION AND FIXED FURNITURE FOR BUILDINGS AND DWELLINGS

Class 276. Plans, drawings, and models of interior decorations.

Class 277. Carpentry; models of frame work, roof work, vaults, domes, wooden partitions, etc.

Class 278. Ornamental joiner work; doors, windows, panels, inlaid floors, organ cases, choir stalls, etc.

Class 279. Permanent decorations in marble, stone, plaster, papier-maché, carton pierre, etc.

Class 280. Ornamental carvings and pyrographics.

Class 281. Iron work and locksmiths' work applied to decoration; grill work and doors in cast or wrought iron; doors and balustrades in bronze; roof decoration in lead, copper, zinc; dormers, spires, finials, vanes; crest and ridge work.

Class 282. Decorative paintings on stone, wood, metal, canvas, or other surfaces. Signs of all varieties.

Class 283. Mosaic decorations in stone or marble for flooring; enameled mosaic for walls and vaulted surfaces.

Class 284. Various applications of ceramics to the permanent decoration of public buildings and dwellings. (See also Ceramics.)

GROUP 58—OFFICE AND HOUSEHOLD FURNITURE AND UTILITIES

Class 285. Sideboards, bookcases, tables, stands, beds, mirrors, desks, files, filing systems, cabinets, wardrobes, chiffoniers, chairs, settees, couches and lounges, billiard tables, etc.; vacuum cleaners, carpet sweepers, washing machines, etc.

GROUP 59—MORTUARY MONUMENTS AND UNDERTAKERS' FURNISHINGS

Class 286. Marble, stone, and metal monuments; mausoleums and fittings.

Class 287. Coffins, caskets, and undertakers' furnishing goods.

GROUP 60—HARDWARE AND WOODENWARE

Class 288. Special tools (not included in the class of machine tools) used by smiths, farriers, bolt makers, screw cutters, wire drawers, nail makers, buckle makers, chain makers, copper-smiths, tin-smiths, edge tool makers, iron founders, ironmongers, locksmiths, model makers, etc.

Class 289. Hardware not otherwise provided for, made of plates, forgings, or castings. Fittings, cocks, taps, etc. Bells; buckles; machine-made bronzes; shoes for horses and for other animals; flatirons, etc.

Class 290. Bolts, nuts, and screws for wood or metal.

Class 291. Products of nail making and wire drawing; nails, brads, tacks, staples; wire ropes, barbed wire, wire fencing, wire cloth, and wire gauze; wire springs; rings and hooks.

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Class 292. Chain making products and kindred industries.
Class 293. Metal plates, flanged, stamped, decorated, perforated, etc., builders' work in sheet metals.
Class 294. Enameled plates and castings for buildings, household and general use.
Class 295. Hollow ware (cast or pressed) plain, polished, japanned, enameled, granitized or porcelain lined. Metal household utensils.
Class 296. Articles from the re-manufacture of sheet metals, produced by cutting, drawing, stamping, spinning; including caps, ferrules, small boxes, cans, metal vessels, lamp shades, etc.
Class 297. Woodworking hand tools; axes, adzes, hatchets, chisels, planes, boring tools, saws, hammers, etc.
Class 298. Builders' and upholsterers' hardware; fittings and fastenings for doors, windows, etc.; casters, clamps, brackets, pulls, etc.
Class 299. Safes, safety vaults and accessories; safe locks.
Class 300. Metal work (cast, wrought, or wire) for stair railings, balusters, gratings, balconies, grill work, etc.
Class 301. Metal work (plated, enameled, etc.) for bedsteads, gas and electric light fixtures, store fixtures, cash carriers, etc.
Class 302. Summer houses and pavilions in metal; lawn bird cages, aviaries, awnings, awning fittings, verandas.
Class 303. Metal shutters for windows, doors, screens and Venetian blinds.
Class 304. Various products of exact rolling or of beating of gold, silver, and tin; metallic foils.
Class 305. Various hardware products of gilding, silver-plating, copper-plating, bronzing, galvanizing, nickel-plating, electro-plating.
Class 306. Woodenware for household use. Miscellaneous manufactured articles of wood not otherwise classified. Baskets and boxes of split wood.

GROUP 61—ELECTRO-THERMAL APPARATUS

Class 307. Electric cooking devices, clothes pressing irons, air heaters, etc.

GROUP 62—INSULATING MATERIALS FOR ELECTRICITY

Class 308. Insulating materials of mica, glass, rubber, porcelain, and other substances; insulating compounds and fabrics. (For devices made of insulating materials see Class 510.)

GROUP 63—PAPER HANGING

(Raw Materials, Equipment, Processes, and Products.)

Class 309. Special raw materials used in the manufacture of wall paper.
Class 310. Machinery for printing wall paper and fancy papers. Machines for engraving printing rollers. Flat wood blocks or copper plates, engraved by hand. Drawing pens. Machines for varnishing, glazing, calendering, embossing, gilding, flocking, rolling and cutting.

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Class 311. Special brushes and cloths used in the laying of wall paper.
Class 312. Stained papers, printed papers. Flocked, marbled, veined, gilt, enameled, and glazed paper. Imitations of wood, leather, and tapestry.

GROUP 64—CARPETS, TAPESTRIES, AND FABRICS FOR UPHOLSTERY

(Materials, Equipment, Methods, and Products.)

Class 313. Special machinery for the manufacture of carpets and tapestry; high warp looms, low warp looms, bobbin-winders, etc.
Class 314. Carpets, moquette, tapestry, brussels, or velvet. Felt carpets, mats, etc.
Class 315. Furniture and wall covering materials in silk, wool, cotton, linen, jute, ramie, grass, plain, mixed, brocaded, printed, embroidered. Horsehair cloths, vegetable leather, moleskin, etc. Leather for hangings and for covering furniture. Oil cloths, linoleums and similar floor coverings.

GROUP 65—UPHOLSTERERS' DECORATIONS

Class 316. Decoration for public and private festivals, for religious services, etc. Buntings, flags.
Class 317. Bed furnishings; upholstered chairs; canopies, curtains, window shades, and fittings; hangings of cloth or tapestry; frames; etc.

GROUP 66—CERAMICS

(Raw Materials, Equipment, Processes, and Products.)

Class 318. Raw materials, particularly chemical products used in ceramic industries.
Class 319. Equipment and methods used in the manufacture of earthenware; machines for turning, pressing, and molding earthenware; furnaces, kilns, muffles, and baking apparatus for earthenware; appliances for preparing and grinding enamels.
Class 320. Various porcelains.
Class 321. Bisque of porcelain and of earthenware.
Class 322. Earthenware of white or colored body, with transparent or tin glazes. Faience.
Class 323. Earthenware and terra cotta for agricultural purposes.
Class 324. Stoneware, plain and decorated.
Class 325. Tiles, plain, encaustic and decorated; mosaics, tiles, and bricks for floors. (See also Group 153.)
Class 326. Fire-proof materials. (See also Group 153.)
Class 327. Statuettes, groups and ornaments in terra cotta.
Class 328. Enamels applied to ceramics.
Class 329. Borders for fireplaces and mantels.

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GROUP 67—PLUMBING AND SANITARY MATERIALS

Class 330. Sanitary earthenware; bathing apparatus and attachments, lavatory fittings, laundry tubs, basins, cocks, draws, etc.; sewerage apparatus, plumbers' appliances.

GROUP 68—GLASS AND CRYSTAL

(Raw Materials, Equipment, Processes, and Products.)

Class 331. Raw materials and particularly chemical products used in the manufacture of glass.

Class 332. Equipment and processes used in the manufacture of glass and crystal; equipment for the preparation of raw materials; furnaces; blowing apparatus; molds; lathes for engraving and shaping; apparatus for cutting and for casting, etc.

Class 333. Window glass, white or colored, fluted, curved, enameled, etc. Glass for photography.

Class 334. Plate glass, rough or polished. Silvered glass. Glass for pavements. Mirrors for projections. Glass with surface in relief.

Class 335. Table glass; glass crystal, white or colored, cut or engraved; glassware and glass apparatus for scientific uses.

Class 336. Ornamental glass. Fused quartz products.

Class 337. Bottles.

Class 338. Enamels; their application to glass.

Class 339. Mosaics of glass. (Architectural mosaics excepted.)

Class 340. Imitation of precious stones.

Class 341. Watch glasses.

Class 342. Glass used for optical purposes; spectacle glass. Lens grinding machinery.

GROUP 69—APPARATUS AND PROCESSES FOR HEATING AND VENTILATION

Class 343. Plans and models showing methods of heating buildings, including public buildings, factories, dwelling houses. Plans and models for sanitation and ventilation of kitchens and small living rooms.

Class 344. Methods of conveying and distributing steam, hot water, and hot air, used separately or in combination.

Class 345. Plans, methods, and equipment for natural ventilation; ventilation by exhaustion; up-draft ventilators; ventilators operated by wind or by difference of temperature; ventilation by mechanical means and their combination.

Class 346. Stoves, furnaces, and boilers, peculiar to the various systems of hot air, hot water, and steam heating. Heating stoves using wood, coal, gas or other fuel. Fittings for same.

Class 347. Radiators of heat used in connection with heating systems.

Class 348. Kitchen ranges and fittings, steam cooking ranges, hot water boilers, combined cooking and heating stoves, special forms of cooking stoves and

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apparatus. Ranges and other kitchen equipment for preparing food in large quantities. Cooking utensils.

Class 349. Accessories to heating and ventilation. Measuring and registering apparatus; ordinary and self-registering thermometers, pyrometers, anemometers; regulators of temperature, of draft, of pressure; automatic drip cocks and air cocks, cocks especially fitted for heating apparatus, electric thermostats.

Class 350. Chimney fittings. Dampers for chimneys, flue stoppers, special sheet iron chimney pots. Openings for hot air and ventilation; gratings and plates.

Class 351. Stoves and chimneys in earthenware. Fireplace and chimney pottery. Earthenware and refractory materials for heaters, stoves, and chimneys.

Class 352. Hearth furnishings; fire lighters; ash sifters; utensils for cleaning and repairing heaters and stoves; other accessories.

GROUP 70—MANUFACTURE, DISTRIBUTION, AND USES OF GAS FOR LIGHT AND FUEL

Class 353. Manufacture of gas: processes and apparatus for manufacturing gas from coal; processes and apparatus for manufacturing water gas; processes and apparatus for manufacturing oil gas; apparatus and materials for the physical and chemical cleansing of gas; apparatus for testing crude materials and manufactured gas.

Class 354. Distribution of gas: pipe, pipe fittings, valves, pressure-regulating apparatus; tools used in laying mains or services; meters and gas measuring apparatus; appliances for the transmission of gas, including exhausters and compressors. (See Class 464.)

Class 355. Uses of gas: incandescent gas lamps and mantels, gas burners, and appliances for gas lighting; appliances for cooking by gas; appliances for heating by gas, including water heaters and hot air furnaces; appliances for utilizing gas for industrial purposes.

GROUP 71—APPARATUS AND METHODS FOR LIGHTING NOT OTHERWISE CLASSIFIED

Class 356. Lighting by means of vegetable or mineral oils, petroleum, shale heavy oil, heavy oil sprayed. Lamps, burners, wicks, lamp chimneys, and other accessories. Apparatus for domestic, industrial, and public lighting.

Class 357. Lighting by acetylene gas or vaporized gasoline, alcohol, etc. Lamps; burners, chimneys, and other accessories and apparatus for domestic, industrial, and public lighting.

Class 358. Accessories to lighting: lighters, glasses, globes, shades, reflectors, screens, smoke consumers, chandeliers and fixtures.

GROUP 72—TEXTILE MATERIALS, SPINNING, AND ROPE MAKING[1]

Class 359. Machinery and apparatus used in preparing and spinning textile materials. Specimens of materials showing progress of work.

[1] Textile machinery not in operation as part of a process exhibit will be installed in Machinery Palace.

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Class 360. Detached parts of spinning machinery and special machines for their manufacture.

Class 361. Apparatus used in subsequent operations; spooling, winding, twisting, throwing. Mechanical finishing of goods.

Class 362. Apparatus for sorting, testing, and registering. Apparatus for perfecting. Equipment for making cordage.

GROUP 73—EQUIPMENT AND PROCESSES USED IN THE MANUFACTURE OF TEXTILE FABRICS[1]

Class 363. Apparatus used in operations preliminary to weaving; machines for warping; cop winders. Card preparing machines.

Class 364. Hand and power looms for weaving plain cloths. Looms for weaving brocaded and embroidered fabrics, box looms.

Class 365. Knitting machinery for hosiery. Machinery for making lace and tulle. Machinery for making trimmings.

GROUP 74—EQUIPMENT AND PROCESSES USED IN BLEACHING, DYEING, PRINTING, AND FINISHING TEXTILES IN THEIR VARIOUS STAGES

Class 366. Apparatus for singeing, brushing, and shearing textile fabrics.

Class 367. Apparatus for washing in lye, scouring, washing, drying, and moistening various textile materials, whether matted, combed, in thread or in web.

Class 368. Apparatus for boiling and staining dye stuffs and stuffs for thickening fabrics.

Class 369. Equipment for engraving in relief, or in incised work patterns, for printing on textiles.

Class 370. Machines for starching, dyeing, or printing. Apparatus for steaming.

Class 371. Machinery of all kinds for finishing goods, for fulling, and for teaseling; tenterframes, calenders, machines for glazing, watering, embossing, beetling. Machines for measuring, folding, etc.

Class 372. Appliances used for dyeing silks, for beating, shaking up, pinning out, lustering, etc.

Class 373. Sweating boxes for thickening, apparatus for spotting, apparatus for bleaching by electricity.

Class 374. Equipment and processes for laundry work. Washing and rinsing, bluing, drying, bleaching, ironing and finishing.

Class 375. Industry of the dyers and scourers; dry cleaning by benzine and by other substances; cleaning by wet process; dyeing, pressing.

Class 376. Specimens of textile materials bleached or dyed before spinning.

Class 377. Specimens of threads or yarns of cotton, linen, wool, silk, etc., pure or mixed, bleached, dyed or mottled.

Class 378. Specimens of textile fabrics bleached, dyed or printed.

[1] Textile machinery not in operation as part of a process exhibit will be installed in Machinery Palace.

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Class 379. Specimens of threads, yarns or fabrics which have been sized.
Class 380. Specimens of chemical thickening of textile materials before they have been spun or woven.

GROUP 75—EQUIPMENT AND PROCESSES USED IN SEWING AND MAKING WEARING APPAREL

Class 381. Common implements used in needle work.
Class 382. Machines for cutting cloth, skins, and leathers.
Class 383. Machines for sewing, stitching, hemming, embroidering, etc.
Class 384. Machines for making button-holes; for sewing gloves, leather, etc.; for plaiting straw.
Class 385. Tailors' geese, flatirons, and equipment.
Class 386. Busts and figures for trying on garments.
Class 387. Machines for plaiting straw for hats and making hats of straw, felt, etc.

GROUP 76—THREADS AND FABRICS OF COTTON

Class 388. Cotton prepared and spun.
Class 389. Fabrics of cotton, pure or mixed, plain or figured, unbleached, dyed or printed.
Class 390. Cotton velvets.
Class 391. Cotton ribbons.
Class 392. Counterpanes.

GROUP 77—THREADS AND FABRICS OF FLAX, HEMP, ETC.; CORDAGE

Class 393. Thread of flax, hemp, jute, ramie, and other vegetable fibers.
Class 394. Plain and figured canvas. Ticking. Damask linen. Cambrics and lawns. Plain and fancy handkerchiefs.
Class 395. Fabrics of flax, or hemp, mixed with cotton or silk.
Class 396. Fabrics and vegetable fibers other than cotton, flax, hemp, jute, or ramie.
Class 397. Cordage, cables, rope, twine, etc.

GROUP 78—YARNS AND FABRICS OF ANIMAL FIBERS

Class 398. Combed animal fibers. Yarn of combed animal fibers.
Class 399. Carded animal fiber. Rovings unbleached or dyed. Yarn of carded animal fibers.
Class 400. Cloths of combed or carded animal fibers.
Class 401. Cloths for ladies' wear, made from animal fiber.
Class 402. Dress goods of combed or carded animal fibers, mixed with cotton or silk.
Class 403. Muslin delaine, tweeds, merinos, china-satins, serges, mohairs, etc.

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Class 404. Fabrics of carded animal fibers, not fulled or slightly fulled; flannels, tartans, molletons, etc.
Class 405. Knitted stuffs in combed or carded animal fibers.
Class 406. Shawls of animal fibers, pure or mixed. Cashmere shawls.
Class 407. Ribbons and braids of animal fibers, pure or mixed with cotton, flax, silk, or floss silk.
Class 408. Fabrics of hair, pure or mixed.
Class 409. Blankets.
Class 410. Felts of animal fibers for carpets, hats, boots, and shoes, etc.

GROUP 79—SILK AND FABRICS OF SILK

Class 411. Silk raw, thrown, twisted.
Class 412. Floss silk and silk waste.
Class 413. Threads of floss silk and silk waste.
Class 414. Artificial silks.
Class 415. Fabrics of pure silk, silk floss, or silk waste; fabrics of silk or silk floss mixed with gold, silver, wool, cotton, thread, etc., plain, figured, or brocaded, unbleached, dyed or printed.
Class 416. Velvets and plushes.
Class 417. Ribbons of silk or silk floss, pure or mixed.
Class 418. Shawls of silk or silk floss, pure or mixed.

GROUP 80—LACES, EMBROIDERY AND TRIMMINGS

Class 419. Lace made by hand; laces, blonde or guipure, wrought on pillow or with the needle or crochet, made of flax, cotton, silk, wool, gold, silver or other threads.
Class 420. Laces made by machinery; tulles, plain or embroidered; imitation lace, blonde and guipure, in thread of every kind.
Class 421. Embroidery made by hand; embroidery by needle or crochet with thread of every kind, on all kinds of grounds (fabric, net, tulle, skin, etc.) including needle work upon canvas as well as embroidery appliqué, or ornamented with gems, pearls, jet, spangles of metal, or other material, feathers, shells, etc.
Class 422. Embroidery made by machinery, with the foundation preserved, or with the foundation cut or burned away.
Class 423. Trimmings: galloons, lace or braids, fringes, tassels, all kinds of appliqué and ornamental work, hand-made or woven, for millinery or garments, ecclesiastical vestments, civil or military uniforms; for furniture, saddlery, carriages, etc. Threads and plates of metal, gold or silver, real or imitation, spangles, chenilles, and all other articles used for trimmings.
Class 424. Church embroidery; church ornaments and linen; altar cloths, banners and other objects for religious ceremonies in fabrics, ornamented with lace, embroideries and trimmings.

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Class 425. Curtains with lace, guipure, or embroidery, upon tulle or fabrics; blinds, screens, portieres, lambrequins, and other draperies, ornamented with lace, embroidery and trimmings.

GROUP 81—INDUSTRIES PRODUCING WEARING APPAREL FOR MEN, WOMEN, AND CHILDREN

Class 426. Clothing to measure for men and boys; ordinary costumes, suits for hunting and riding, leather breeches and similiar articles, suits for gymnastic uses and games, military and civil uniforms, campaign clothing of special types, robes and costumes for magistrates, members of the bar, professors, ecclesiastics, etc., liveries, various costumes for children.

Class 427. Clothing, ready made for men and boys.

Class 428. Clothing to measure for women and girls; dresses, vests, jackets, cloaks (made by ladies' tailors, dressmakers, or cloakmakers), riding habits, sporting suits.

Class 429. Clothing ready made for women and girls. Patterns.

GROUP 82—FURS AND SKINS, FUR CLOTHING; LEATHER, BOOTS, AND SHOES

Class 430. Furs and skins, dressed and tanned.

Class 431. Fur clothing, caps, hats, hoods, gloves, boots, etc.

Class 432. Fur mats and robes; fur trimmings.

Class 433. Leather in every variety; tanned, curried, enameled, patent leather, wash leather, etc.

Class 434. Machines for cutting and preparing parts of boots or shoes; machines for sewing boots or shoes; machines for lasting, pegging, nailing, screwing.

Class 435. Boots and shoes, for men, women, and children; boots, bootees, shoes, slippers, pumps, overshoes, soles, accessories, etc.; gaiters.

Class 436. Military and naval campaign footwear.

Class 437. Gloves made of skins.

GROUP 83—VARIOUS INDUSTRIES CONNECTED WITH CLOTHING

Class 438. Hats; hats of felt, wool, straw, or silk; caps; trimmings for hats.

Class 439. Artificial flowers for dressing the hair, for dress, and for all other uses. Feathers. Millinery. Hair: coiffures, wigs, and switches.

Class 440. Shirts and underclothing for men, women, and children.

Class 441. Hosiery and gloves of cotton, wool, silk, and floss silk, etc., knitted hosiery; cravats and neckties.

Class 442. Corsets.

Class 443. Elastic goods, suspenders, garters, belts.

Class 444. Canes, whips, riding whips, sun-shades, parasols, umbrellas.

Class 445. Buttons: buttons of china, metal, cloth, and silk, mother-of-pearl, and other shell, ivory-nut, horn, bone, papier-mâché, etc.

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Class 446. Buckles, eyelets, hooks and eyes, pins, needles, etc.
Class 447. Fans and handscreens.

GROUP 84—SAFETY APPLIANCES

Class 448. Safety appliances and devices for protection of those engaged in manufacturing work and processes, not exhibited in connection with machines. (See also Classes 472 and 476.)

MACHINERY

DEPARTMENT F

GROUP 85—STEAM GENERATORS AND MOTORS UTILIZING STEAM. ACCESSORY APPLIANCES

Class 449. Steam engines and steam turbines, portable, semi-portable, and stationary; valve gear, governors, lubricating apparatus, and accessories attached.

Class 450. Boilers, stationary, marine, portable and semi-portable; boiler equipment, including furnaces, grate bars, smoke stacks, mechanical stokers, oil burners, oil and other fuel systems, mechanical flue and tube cleaners, forced and natural draft apparatus and equipment; fuel economizers, superheaters; boiler fittings; coal handlers and conveyors; ash handling systems and apparatus. NOTE: Agricultural and road-making machinery is not included herewith.

Class 451. Appliances for handling and purifying feed water: feed pumps and injectors, feed-water regulators, feed tanks; feed-water heaters; chemical and mechanical purifiers, oil extractors, scale removing appliances and compounds; water softening compounds. (See Class 462.)

Class 452. Valve gear, governors and speed regulators for steam engines or turbines, not attached.

Class 453. Equipment for transmission and control of steam: steam piping and piping systems, including pipe, valves, fittings, steam hose, traps, separators, and exhaust heads.

Class 454. Condensing apparatus: surface and jet condensers; air pumps, dry vacuum pumps, circulating pumps; cooling towers, cooling systems.

Class 455. Methods and appliances for testing and recording the performances of engines, turbines, boilers, condensers, their auxiliaries, and other machinery: pyrometers, steam thermometers, calorimeters, steam meters, CO_2 recorders, flue gas analysis apparatus for steam power plants; counters, gages, indicators, tachometers, and dynamometers.

GROUP 86—INTERNAL COMBUSTION MOTORS

Class 456. Internal combustion engines, gas turbines, and all motors in which internal combustion of the fuel takes place; apparatus and systems for supplying fuel for internal combustion motors.

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NOTE: This group does not include motors attached to mobile devices (such as automobiles), nor does it include agricultural or road-making machinery.

GROUP 87—HYDRAULIC MOTORS

Class 457. Impulse wheels, turbines, and other motors driven by water power, and apparatus for their regulation and control.

GROUP 88—MISCELLANEOUS MOTORS

Class 458. Motors operated by heated air, or other means, not elsewhere classified.

GROUP 89—GENERAL MACHINERY AND ACCESSORIES

Class 459. Appliances for handling heavy weights; overhead traveling and stationary cranes, operated by hand or power; hoisting engines, jacks, differential pulleys. (Marine and mining equipment not included.)

Class 460. Conveying machinery: belt, bucket, and movable table or roller conveyor; trolley conveyors. (For special apparatus in mining see Classes 750, 756, and 780.)

Class 461. Power-transmitting appliances: leather, fiber, chain, link, and other belting; cable and rope drives; gearing, shafting, couplings, pulleys, clutches, hangers, and pedestals.

Class 462. Apparatus for lifting and handling water and other liquids: hand, steam and power driven pumps, pulsometers, air lifts, hydraulic rams; water pipe and accessories; water meters. (See also Classes 51, 470, 530, 554, 559, and 751 for pumps for special uses.)

Class 463. Fire engines, extinguishers, and fire fighting apparatus. (See Class 183.)

Class 464. Air and gas compressors and accessories. (See also Classes 354 and 749.)

Class 465. Brick and tile making machinery. (Transferred to Class 765.)

Class 466. Dredging and excavating machinery and appliances. (For railroad machinery see Class 520. For mining machinery see Class 759.)

Class 467. Refrigerating machinery. (See also Classes 531 and 601.)

Class 468. Packing, gaskets, heat insulating material, lubricators, lubricants, lubricating systems, metal for bearings.

Class 469. General machinery not otherwise classified.

GROUP 90—TOOLS FOR SHAPING WOOD AND METALS

Class 470. Steam forging hammers, hydraulic forging presses; hydraulic accumulators, intensifiers, pumps, and accessories; extruding presses; hand and power shears, punches and blank cutters for metals; plate bending and planing machines; drop forging hammers; swaging presses; riveting machines. (See Class 462.)

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Class 471. Apparatus, equipment, and compounds used in annealing, hardening, tempering, brazing, and soldering metals.

Class 472. Machine tools, lathes, planers, shapers; drilling, boring, milling, slotting and splining machines; bolt, nut and pipe machines; metal saws; forcing presses; polishing and finishing machines for metals; machines for rough grinding. All machine tool attachments; safety devices when attached to machines; portable power tools; tool grinding machines; machine shop accessories.

Class 473. Machinery for grinding accurate surfaces; screw cutting machines; presses and spinning lathes for shaping sheet metals.

Class 474. Hand tools for machinists: measuring tools; bench tools; etc.

Class 475. Machines and tools for boiler shop and sheet metal shop work, not elsewhere classified.

Class 476. Woodworking machinery: power saws, wood lathes, planers and jointers, and other woodworking power tools other than saw-mill equipment; equipment for bending or pressing wood; box and basket machinery. Attachments for woodworking machinery. Safety devices for woodworking machinery when shown attached to machines. (See Class 448.)

Class 477. Special machinery for various purposes, not otherwise classified.

Electrical Groups

GROUP 91—COMMUTATING APPARATUS

Class 478. Direct-current commutating generators, all types.

Class 479. Synchronous commutating machines comprising synchronous converters, motor converters, and double current generators.

Class 480. Direct and alternating current commutating type motors.

Class 481. Direct and alternating current commutating type railway motors.

GROUP 92—SYNCHRONOUS APPARATUS

(All Alternating Current)

Class 482. Synchronous generators, all types.

Class 483. Synchronous motors.

Class 484. Synchronous condensers.

Class 485. Synchronous frequency changers.

Class 486. Synchronous rotary phase converters.

GROUP 93—STATIONARY INDUCTION APPARATUS

Class 487. Transformers (including induction coils) and auto transformers, all types.

Class 488. Potential regulators and reactances, all types.

Class 489. Induction starters.

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GROUP 94—ROTARY INDUCTION APPARATUS

Class 490. Induction generators, all types.
Class 491. Induction motors.
Class 492. Induction condensers.
Class 493. Induction frequency changers.
Class 494. Induction rotary phase converters.

GROUP 95—UNIPOLAR (ACYCLIC) APPARATUS

Class 495. Unipolar (Acyclic) apparatus.

GROUP 96—RECTIFYING APPARATUS

Class 496. Rotating commutators.
Class 497. Electric valves (including mercury rectifiers).
Class 498. Vibrating commutators.

GROUP 97—LUMINOUS APPARATUS (Sources of Light)

Class 499. Arc lamps, all types.
Class 500. Incandescent lamps, all types.
Class 501. Vapor lamps, all types.
Class 502. Vacuum lamps, all types.

GROUP 98—MEASURING, INDICATING, AND RECORDING APPARATUS

(Not including instruments for pure science and research work.)

Class 503. Instruments for switchboard use.
Class 504. Instruments for mounting apart from switchboard.
Class 505. Portable instruments.
Class 506. Laboratory instruments.

GROUP 99—APPARATUS FOR PROTECTION OF ELECTRIC APPARATUS AND FOR CONTROL AND DISTRIBUTION OF ELECTRIC ENERGY, OTHER THAN RAILWAY MATERIAL

Class 507. Complete switchboards.
Class 508. Lightning arrestors and accessories.
Class 509. Devices for opening and closing circuits and controlling flow of current therein.

NOTE: In class 509 will be placed such devices as are used in stations and on main circuits.

Class 510. Devices and materials used in distribution of current and control of distribution circuits other than in stations and on main circuits; including fuses and fuse holders, conduits, cables, wires, insulators, junction boxes, cabinets, cut-outs, sockets, fixtures, electric sign mechanism, and other subsidiary apparatus not otherwise classified. (See Class 308.)
Class 510½. Electrical workers' tools and appliances.

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GROUP 100—ELECTRO-CHEMICAL APPARATUS

Class 511. Storage batteries.
Class 512. Primary batteries.

TRANSPORTATION

DEPARTMENT G

GROUP 101—CARRIAGES AND WHEELWRIGHTS' WORK, AUTOMOBILES AND CYCLES

Class 513. Pleasure carriages and sleighs, sedan chairs.
Class 514. Public carriages; ambulances; hearses; carriages for invalids and infants.
Class 515. Carts and wagons for all purposes; trucks and drays, farm wagons and carts.
Class 516. Vehicles driven by mechanical motors; motorcycles; automobiles.
Class 517. Bicycles. Velocipedes.
Class 518. Detached parts, material and inventions pertaining to carriage building, wheelwrights' work, automobiles or cycles.

GROUP 102—SADDLERY AND HARNESS

Class 519. Equipment for horses and other animals, attached to carriages, mounted, or in the stable. Harness for pleasure carriages, saddles, bridles; harness for public service or for draught. Parts of harness, materials, and inventions pertaining to saddlery and harness making. Military equipment.

GROUP 103—RAILWAYS

Class 520. Way and structures of railways. Means and methods of construction; grading; ballast, ties, rails, and other track materials; grades and change of alignment; bank protection; removal of and protection from snow, ice, and sand; tunnels; bridges; trestles; culverts; crossings; fences, cattle guards, and signs; signals and interlocking plants; telegraph and telephone plants as applied to railways; buildings, fixtures, and grounds; docks and wharves; roadway tools and supplies; steam shovels, wrecking derricks, and other work equipment. (See also Class 466.)
Class 521. Railway equipment. Steam and electric locomotives; passenger-train cars; freight-train cars; electric equipment of cars; building and repair shop equipment. Locomotive cranes.
Class 522. Railway traffic. Handling of passengers, ticket offices, tickets, baggage handling; industrial, immigration, and colonization bureaus. Handling of freight, tariffs, way-bills, means of weighing; fast freight traffic methods. Literature, lectures, photographic work, advertising, and other methods of promoting traffic.
Class 523. Railway transportation. Time tables; methods of despatching trains; operation of depots, stations, and freight houses; weighing and car-service

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associations; operation of stock yards, grain elevators, coal, and ore docks; operation of yards and engine houses, fuel and water supply; lubricants; operation of trains, including trainmen's signals; cleaning, heating, lighting, ventilating, icing and watering, refrigeration and pre-cooling of cars; drawbridge operation; operation of floating equipment; express and special service; loss of, and damage to, freight, baggage, property, or stock on right of way; methods for preventing injuries to persons and insuring safety. Apparatus and methods of testing the power and efficiency of locomotives and other railway equipment.

Class 524. Street railways. Urban and interurban railways for freight or passenger traffic; elevated and subway railways; rack, cable, monorail, and aerial railways; equipment for these, including track and equipment, motive power, rolling stock, and equipment and methods employed in their operation.

Class 525. Special methods of transportation, similar to railways. Transportation of ships over railways. Trackless trolley lines. Moving platforms. Scenic and gravity railways for amusement parks.

Class 526. General. Bibliography, statistics, history, special maps and drawings, and various publications relative to railways. Joint track, detour, and other agreements. Organization, law, insurance, hospitals, club houses, libraries, railroad Y. M. C. A., relief department, pensions, with reference to railways.

GROUP 104—MATERIAL AND EQUIPMENT USED IN THE MERCANTILE MARINE

Class 527. Raw material and material specially used in the construction and fitting out of ships and boats.

Class 528. Special tools and implements used in ship-building yards.

Class 529. Drawings and models of all kinds of vessels or boats for navigating seas and rivers. Illustrations showing the arrangement of such vessels or boats. Drawings and models of tugs and tow boats. Launches and small craft propelled by machinery, by wind, or by oars.

Class 530. Motive power for vessels and boats (drawings, models, and specimens). Boilers, water heaters, filters for feed water; engines, condensers, propellers, machinery auxiliary to main engines, pumps, governors, indicators of speed and direction, engine counters, and other machinery specifically for the propulsion of vessels. Arrangement for the prevention of fires in holds, storerooms, and passages. (See Class 462.)

Class 531. Marine equipment: winches, tackle blocks, chains, anchors, hawsers, cables, etc. Steering apparatus, order transmitters, machinery for working sails, ship's lights and signals, fresh water evaporators and condensers, apparatus for lighting, heating, supplying air and ventilation. Special apparatus for the generation and use of electricity, refrigerating apparatus, special instruments for determining position and time, flags, furniture, etc. Equipment for loading and unloading merchandise. (See also Class 467.)

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Class 532. Lighthouses and equipment; buoys, beacons, ranges, and other aids to navigation. Application of electric lighting to navigation.

Class 533. Pleasure craft; yachts, steam, sail, or power boats, rowboats, outriggers, skiffs, etc., and their accessories (drawings, models, and specimens).

Class 534. Submarine navigation.

Class 535. Equipment for saving of lives and vessels at sea, boats, line carriers, lines, traversers, safety belts and jackets, etc. Humane societies. Spreading of oil upon the sea. Equipment for raising wreckage, and for submarine operations for saving sunken material.

Class 536. Swimming: apparatus and equipment for swimmers or swimming instruction.

Class 537. Statistics, special charts, and publications relative to navigation for commerce or for pleasure.

GROUP 105

Class 538. Models, or copies thereof, of early English, Spanish, and French vessels; pictures, documents, and original items illustrating their voyages.

GROUP 106—MATERIAL AND EQUIPMENT OF NAVAL SERVICES; NAVAL AND MILITARY ORDNANCE

Class 539. Models, designs, drawings, descriptions, specifications, photographs, paintings, of warships and public vessels of special character.

Class 540. Material used in the construction and fitting out of ships-of-war and public craft; deck and engine-room outfits; signal gear; naval furniture; electrical equipment installed with reference to battle conditions; safety appliances.

Class 541. Motive power for government vessels.

Class 542. Marine and military arms and armaments, ordnance, and their equipments; telescopic sights, range finders, shop plotters, etc.; torpedoes, fixed, dirigible, and automobile; naval signals.

Aerial Navigation

GROUP 107—DIRIGIBLES

Class 543. Construction: fabrics, cars, dirigibles, war cruisers and touring cruisers, anchors, grapnels, valves, netting, screw propellers, etc.

GROUP 108—SPHERICAL BALLOONS

Class 544. Construction: fabrics (cotton or silk, rubberized); cars; netting, cordage, balloons for the study of the atmosphere and for making scientific observations of air currents, clouds, temperature at great heights, optical phenomena, etc.

Class 545. Statoscopes, thermometers, anemometers, tachometers, recording barometers.

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GROUP 109—MILITARY BALLOONING

Class 546. Military balloons, captive and free, and their accessories; winding drums; transport wagons; apparatus for inflation; scientific instruments, etc.

GROUP 110—AEROPLANES

Class 547. Monoplanes; biplanes; triplanes; military aeroplanes; frames; parachutes. Screw propellers, aeroplane carriages, speedometers, steering wheels, reservoirs, cables, compasses, buffers, stabilizers, rigging screws, clothing for aviators; toys, kites, etc.

Class 548. Hydro-aeroplanes.

GROUP 111—GASES

Class 549. Generation and preservation of hydrogen and other light gases for balloon use.

GROUP 112—MOTORS

Class 550. Motors for dirigibles and aeroplanes; carbureters; magnetos, etc.

GROUP 113—LITERATURE

Class 551. Drawings, maps of journeys; diagrams; photographs, etc.

AGRICULTURE

DEPARTMENT H

GROUP 114—FARM EQUIPMENT AND METHODS OF IMPROVING LANDS

Class 552. Specimens of various systems of farming.

Class 553. Plans and models of farm buildings; general arrangement of stables, sheep-folds, barns, pig-sties, poultry-houses, breeding-grounds; special arrangements for breeding and fattening cattle; granaries and silos; furniture for stables, barns, kennels, etc.

Class 554. Materials and appliances used in agricultural engineering; reclaiming of marshes; drainage; irrigation. (See Class 462.)

GROUP 115—AGRICULTURAL IMPLEMENTS AND FARM MACHINERY

Class 555. Implements, machines, and appliances for agricultural preparation: machetas, axes, mattocks, grubbing hoes, spades, shovels, hand plows, etc.; walking plows, sulky plows, gang plows, etc.; rakes, rollers, harrows, clod crushers, etc.; stalk cutters, stalk rakes; stump pullers; manure spreaders.

Class 556. Implements, machines, and appliances for seeding: corn planters, seed drills, cotton planters, grain drills, broadcast seeders, etc.

Class 557. Implements, machines, and appliances for cultivation: hoes, cultivators, riding cultivators, cultivators propelled by steam or electricity.

Class 558. Implements, machines, and appliances for harvesting: sickles,

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scythes, grain cradles, reapers, binder twine, headers, mowers, corn harvesters, potato diggers, combined reapers and threshers propelled by animals, by steam, or by electricity; machine and implements for threshing and cleaning, fanning mills, threshers and separators, clover hullers, corn shellers, threshers and separators with sanitary or traction engines; wind stackers; fodder shock compressors, bunchers, etc.

Class 559. Miscellaneous: farm wagons and farm carts; feed cutters, feed grinders, cider mills, machines for ginning and baling cotton, hay baling machinery; horse clipping machines; sheep shearing machines; windmills, tanks, pumps, and other water lifting apparatus for agricultural uses; machines for use on farms for grinding, weighing, etc. (See Class 462.)

Class 560. Portable agricultural power generating machines; engines, horse powers, agricultural machinery moved by animals, water, air, or electricity. Internal combustion motors for agricultural purposes. Motor driven farm trucks and wagons.

Class 561. Apparatus for preparing food for animals. Stock foods.

GROUP 116—FERTILIZERS

Class 562. Preparing and preservation of manures. Commercial fertilizers. Use of sewage.

GROUP 117—TOBACCO

(Equipment, Processes, and Products.)

Class 563. Tobacco culture; raw material in stalk, leaf, and seed.

Class 564. Equipment for manufacture. Construction of tobacco factories.

Class 565. Laboratory appliances.

Class 566. Manufactured products.

GROUP 118—APPLIANCES AND METHODS USED IN AGRICULTURAL INDUSTRIES

Class 567. Types of agricultural factories connected with farming: dairies; creameries; cheese factories; etc.

Class 568. Oil mills; margarin factories. Grain elevators and appliances.

Class 569. Workshops for the preparation of textile fibers.

Class 570. Equipment for the breeding of birds and for the artificial hatching, raising, or fattening of poultry. Poultry foods. Methods of and appliances for packing and transporting.

Class 571. Market gardening. Buildings and appliances for growing, gathering, packing, and marketing vegetables. Processes and equipment employed in the forced culture of vegetables and plants, with specimens of products.

GROUP 119—THEORY OF AGRICULTURE AND AGRICULTURAL STATISTICS

Class 572. Studies relating to soil and water from an agricultural point of view.

Class 573. Agronomic charts, climate charts, various agricultural charts. Registers of land tenures.

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Class 574. Rural population. Division of cultivated territory. Yield and returns. Census of farm animals.

Class 575. Progress, especially since 1905. History of agriculture in its successive changes. History of fluctuations in prices of land, rents, labor, live stock, crops, and animal products.

Class 576. Institutions for the promotion and advancement of agriculture. Methods and products of experiment stations and laboratories. Societies, agricultural communities, and associations. Loans on land. Agricultural insurance.

Class 577. Legislative and administrative measures.

Class 578. Books, papers, statistics, diagrams, periodical publications.

GROUP 120—VEGETABLE FOOD PRODUCTS AND AGRICULTURAL SEEDS

Class 579. Cereals: wheat, rye, barley, maize, millet, oats, rice, buckwheat, and other cereals in sheaves or in grain.

Class 580. Legumes and their seeds: beans, peas, lentils, etc.

Class 581. Tubers and roots and their seeds: potatoes, beets, carrots, turnips, radishes, etc.

Class 582. Miscellaneous vegetables and their seeds: cabbages, peppers, artichokes, mushrooms, cresses, etc.

Class 583. Sugar producing plants and their products: beets, cane, sorghum, etc.

Class 584. Miscellaneous plants and their products: coffee, tea, cocoa, etc.

Class 585. Oil producing plants and their products.

Class 586. Forage, growing, green, cured, or in silos; fodder for cattle; forage, grass and field seeds.

GROUP 121—APPLIANCES FOR GATHERING WILD CROPS, AND PRODUCTS OBTAINED

Class 587. Methods and implements for gathering the products of the soil obtained without culture.

Class 588. Mushrooms; truffles; edible wild fruits.

Class 589. Plants, roots, barks, leaves, fruits obtained without cultivation and used by herbalists, in pharmacy, for dyeing, manufacture of paper, oils, or for other purposes.

Class 590. India rubber; gutta percha. Gums and resins.

GROUP 122—ANIMAL FOOD PRODUCTS

Class 591. Refrigerated fresh meats, poultry, game, and fish; edible animal fats and oils; gelatines.

Class 592. Milk and cream, fresh or condensed; sterilized milk.

Class 593. Butter in all forms.

Class 594. Cheese in all forms.

Class 595. Eggs; albuminoid foods and preparations.

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Class 596. Dairy fittings and appliances, churns, butter workers, cans, pails, cheese presses, vats, separators, testers, pasteurizers, etc., including all fittings and appliances for the preparation, preservation, transportation, distribution, and delivery of milk for the supply of cities and towns.

GROUP 123—EQUIPMENT AND METHODS EMPLOYED IN THE PREPARATION OF FOODS AND BEVERAGES

Class 597. Flour mills. Factories for the production of glucose and starch.
Class 598. Manufacture of food pastes.
Class 599. Bakeries: kneading machines, mechanical ovens; manufacture of ship biscuit.
Class 600. Pastry works.
Class 601. Methods and appliances for the utilization of refrigeration in food preservation. Refrigerators and household refrigerating machines. (See Class 467.)
Class 602. Equipment and methods used for preserving fresh meats, game, fish, etc.
Class 603. Factories for canning or curing meat, fish, vegetables, and fruit.
Class 604. Sugar manufactories and refineries.
Class 605. Manufacture of chocolate and confectioneries.
Class 606. Preparation of ices and sherbets.
Class 607. Decortication and roasting of coffee, peanuts, etc.
Class 608. Vinegar or pickling works.
Class 609. Distilleries; distillers' machinery and supplies.
Class 610. Wineries; methods and equipment employed in wine making; wine ferments; wine blending; wine preservatives.
Class 611. Breweries; brewers' machinery and supplies, etc.
Class 612. Manufacture of aerated waters; bottling works and machinery.
Class 613. Various industries for the preparation of foods.
Class 614. Olive oil presses and clarifying apparatus.

GROUP 124—FARINACEOUS PRODUCTS AND THEIR DERIVATIVES

Class 615. Flour from cereals; grain from which the hulls have been removed, groats, potato starch, rice flour, flour from lentils or beans, gluten; prepared cereals.
Class 616. Tapioca, sago, arrowroot, various starches, malt. Mixed farinaceous products.
Class 617. Italian pastes: semolina, vermicelli, macaroni, noodles. Home-made pastes.
Class 618. Infants' and invalids' foods.

GROUP 125—BREAD AND PASTRY

Class 619. Breads, with or without yeast, fancy breads and breads in molds, compressed breads for travelers, military campaigns, etc. Ship biscuits. Yeasts. Baking powders.

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Class 620. Pastry of various kinds peculiar to each country. Ginger bread and dry cakes for keeping.

GROUP 126—PRESERVED MEAT, FISH, AND VEGETABLES

Class 621. Meat preserved by any process. Salted meats, canned meats. Meat and soup tablets. Meat extracts, soups. Various pork products.

Class 622. Fish preserved by any process. Salt fish, fish in barrels, cod, herring, etc. Fish preserved in oil; tunny, sardines, anchovies. Fish products; oil, roes, isinglass, spermaceti, etc.

Class 623. Canned lobster, canned oysters, canned shrimp, canned turtle, canned terrapin.

Class 624. Vegetables preserved by various processes.

Class 625. Army and navy commissary stores and equipment.

GROUP 127—SUGAR AND CONFECTIONERY, CONDIMENTS AND RELISHES; NUT AND FRUIT FOODS

Class 626. Sugar. Glucose. Syrups.

Class 627. Confectionery. Chocolate. Glacé fruits.

Class 628. Foods made from nuts or fruits.

Class 629. Coffee, tea, substitutes for coffee; mate, chicory, and sweet acorns.

Class 630. Vinegar.

Class 631. Table salt.

Class 632. Spices and their derivatives: pepper, cinnamon, allspice, flavoring extracts.

Class 633. Mixed condiments and relishes: pickles, mustard, curries, sauces.

GROUP 128—WATERS AND UNFERMENTED FRUIT JUICES

Class 634. Artificially aerated, carbonated or mineral waters, ginger ale, and other non-alcoholic beverages. Soda fountains, carbonating machinery, apparatus, and fixtures; filters; and methods of purifying water for home use.

Class 635. Cider and other unfermented fruit juices.

GROUP 129—WINES AND BRANDIES

Class 636. Dry wines, red and white.

Class 637. Sweet wines: sherry, madeira, port, angelica, etc.

Class 638. Sparkling wines.

Class 639. Brandies.

Class 640. Grape juice, fermented.

GROUP 130—SYRUPS AND LIQUORS, DISTILLED SPIRITS AND COMMERCIAL ALCOHOL

Class 641. Syrups and sweet liqueurs: anisette, curaçoa, ratafia, benedictine, chartreuse, etc.

Class 642. Aperients having alcohol or wine as a base: absinthe, bitters; vermouth, myrrh, etc.

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Class 643. Commercial alcohols: alcohol made from beets, molasses, grains, potatoes, etc.

Class 644. Various distilled spirits, whiskey, gin, rum, vodka, kirschwasser, saké, etc.

GROUP 131—FERMENTED BEVERAGES

Class 645. Cider and perry. Ale, beer, porter, and other malt liquors. Pulke. Koumiss and other fermented drinks low in alcohol.

GROUP 132—INEDIBLE AGRICULTURAL PRODUCTS

Class 646. Textile plants: cotton; flax and hemp in the straw, scutched or unscutched; ramie, phormium tenax, vegetable fibers of all kinds.

Class 647. Oil-producing plants, in stalk or in seed.

Class 648. Inedible vegetable fats and oils.

Class 649. Plants containing tannin; weeds and noxious plants.

Class 650. Plants containing dyes, medicinal plants.

Class 651. Hops, teasels, broomcorn, etc.

Class 652. Wool, raw, washed, or unwashed.

Class 653. Packing house by-products.

Class 654. Feathers, down, hair, and bristles, etc.

GROUP 133—USEFUL INSECTS AND THEIR PRODUCTS, INJURIOUS INSECTS AND PLANT DISEASES

Class 655. Systematic collections of useful and injurious insects.

Class 656. Systematic collections of vegetable parasites from plants and animals.

Class 657. Bees. Silkworms and other bombycids. Cochineal insects.

Class 658. Appliances for rearing and keeping bees and silk worms. Bee and silkworm products; honey, wax, cocoons.

Class 659. Appliances and processes for destroying plant diseases and injurious insects.

GROUP 134—FORESTRY

Class 660. Forest geography: maps, statistics, and general literature. Geographical distribution of forests, of forest types and tree species. Botanical collections: seeds, bark, foliage, flowers, fruit, bark, and wood sections.

Class 661. Planting: equipment and processes for tree collection; nursery practice, field planting, and field sowing.

Class 662. Management and utilization; equipment and processes for protection from fire, insects, and disease; organization of protective forces, ranger stations, trail, and telephone systems. Logging methods and equipment: transportation of logs; systems of cutting.

Class 663. Indirect uses of forests: watershed protection; effect on climate and public health; prevention of erosion and shifting sand; use for windbreaks, for recreation purposes, and as refuge for game.

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GROUP 135—FOREST PRODUCTS

Class 664. Lumber: equipment and processes used in cutting logs into lumber; drying, dressing, and grading of lumber. Lumber grading rules.

Class 665. Saw-mill and planing-mill products from re-manufacture of lumber: furniture woods, wagon stock, cooperage, boxes, pickets, shingles, doors, etc. Veneering and veneer-cutting machinery.

Class 666. Forest by-products: tan bark and extract, naval stores, oils and distillates, charcoal, cork, dye woods, medicinal and textile barks, kiln-dried wood, wood fuels, wood wool.

LIVE STOCK

DEPARTMENT I

GROUP 136—HORSES AND MULES

Class 667. Draft horses.

Class 668. Coach horses.

Class 669. Carriage horses.

Class 670. Trotting horses.

Class 671. Thoroughbred horses.

Class 672. Saddle horses.

Class 673. Hunters.

Class 674. Ponies.

Class 675. Jacks and jennets.

Class 676. Mules.

Class 677. Methods of raising, breeding, and working. Literature, statistics and history of the industry.

GROUP 137—CATTLE

Class 678. Beef cattle.

Class 679. Dairy cattle.

Class 680. Methods of raising, feeding, milking, fattening, and breeding; statistics; literature and history of the industry.

GROUP 138—SHEEP

Class 681. Fine-wooled sheep.

Class 682. Combing-wooled sheep.

Class 683. Middle-wooled sheep.

Class 684. Mutton sheep; sheep of breeds not otherwise provided for.

Class 685. Methods of raising, feeding, fattening, breeding, and shearing; statistics; literature and history of the industry.

GROUP 139—GOATS, ETC.

Class 686. Goats. Other unclassified domesticated animals.

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Class 687. Methods of raising, feeding, breeding, and fattening; statistics; literature and history of the industry.

GROUP 140—SWINE

Class 688. Swine of all breeds.
Class 689. Methods of raising, feeding, breeding, and fattening; statistics; literature and the history of the industry.

GROUP 141—DOGS

Class 690. Dogs of all breeds; hunting, coursing, coach, watch, pet, etc.
Class 691. Breeding kennels, bench shows; registers, standards, and literature; methods of breeding and raising.

GROUP 142—CATS, PET STOCK, ETC.

Class 692. All breeds of the domestic cat.
Class 693. Cavies and their uses.
Class 694. Rabbits and methods of raising; their use as food; their destruction as pests.

GROUP 143—POULTRY AND BIRDS

Class 695. Poultry of all breeds including turkeys and all domesticated birds not otherwise specified.
Class 696. Ducks, geese, swans, and other water fowl.
Class 697. Pigeons; homing pigeons; pigeon lofts.
Class 698. Guinea fowl, pea fowl, ostriches, pheasants.
Class 699. Poultry and bird houses, and their fittings; poultry shows; standards of perfection; poultry foods; literature; prices; statistics, methods of breeding, and raising.

HORTICULTURE

DEPARTMENT K

GROUP 144—APPLIANCES AND METHODS OF POMOLOGY, FLORICULTURE, AND ARBORICULTURE

Class 700. Horticultural tools; methods and appliances for gathering, packing, and transporting produce; pruning and grafting knives; ladders; tree diggers; watering apparatus; spraying apparatus and insecticides.
Class 701. Frost-fighting principles, methods, and devices; apparatus for preventing injury by frost; methods of de-frosting or thawing. Orchard heaters; heaters and vaporizers; heaters and covers.
Class 702. Apparatus and objects for ornamenting gardens; vases, pots, chairs, seats, fountains, labels, etc.
Class 703. Glass houses and their accessories; heating apparatus, mattings, etc.

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Class 704. Aquariums for plants. Ferneries, etc., for use in dwellings.
Class 705. Garden architecture and landscape gardening; plans, drawings, models, books, pictures, etc.

GROUP 145—APPLIANCE AND METHODS OF VITICULTURE

Class 706. Types of buildings used in connection with vine culture.
Class 707. Methods of picking, packing, and transporting fresh grapes.
Class 708. Raisin growing; methods of curing, packing, grading, etc.

GROUP 146—POMOLOGY

Class 709. Pomaceous and stone fruits: apples, pears, quinces, peaches, apricots, plums, nectarines, cherries, grapes, etc.
Class 710. Citrus fruits: oranges, lemons, limes, shaddocks, pomelos, etc.
Class 711. Tropical and semi-tropical fruits: pineapples, avocadoes, bananas, guavas, mangoes, tamarinds, figs, olives, sapodillas, etc.
Class 712. Small fruits: strawberries, raspberries, blackberries, dewberries, gooseberries, currants, etc.
Class 713. Fruits matured in frost districts under frost protecting appliances.
Class 714. Nuts: walnuts, almonds, chestnuts, filberts, pecans, hickorynuts, etc.
Class 715. Casts and models of fruits in wax, plaster, etc. Photographs, publications and monographs. Labels for canned or preserved fruits.

GROUP 147—PRESERVED, DRIED, AND PICKLED FRUITS

Class 716. Fruits, dried or prepared: prunes, figs, raisins, peaches, apricots, dates, etc.
Class 717. Fruits, canned, in tins or in glass. Fruits preserved without sugar
Class 718. Pickled fruits. Brandied fruits. Preserves, jellies, and jams.
Class 719. Processed fruits.
Class 720. Olives: green, ripe, pickled, and dried. Olive oil.
Class 721. Equipment for and processes of canning fruit. Canning factories.

GROUP 148—FRUIT CULTURE

Class 722. Collections of fruit trees and vines. Methods of propagating, packing, shipping, planting, growing, training, pruning, etc.
Class 723. Plants of small fruits: strawberries, raspberries, blackberries, gooseberries, etc. Methods of propagating, growing, transplanting, training, packing, shipping, etc.
Class 724. Methods of cross-fertilization of fruits and nuts.
Class 725. Exhibits of insect pests and diseases of fruit trees, vines, and plants, and modern appliances for their eradication. Advantages in the use of predaceous and parasitic insects.

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GROUP 149—TREES, SHRUBS, ORNAMENTAL PLANTS, AND FLOWERS

Class 726. Ornamental trees, seedlings or grafted. Methods of propagating, packing, shipping, planting, growing, training, grafting, pruning, etc.

Class 727. Ornamental shrubs, deciduous and evergreen. Methods of propagating, packing, shipping, planting, growing, training, grafting, pruning, etc.

Class 728. Flowering plants for the park or garden. Bulbous plants. Herbaceous plants grown in open ground. Botanical specimens.

Class 729. Plants for the conservatory, ornamental and flowering. Hot-house plants and those grown in houses of moderate temperature.

Class 730. Specimens of culture used in different countries for use or for ornament.

Class 731. Forced culture of fruits; specimens and processes.

Class 732. Insect pests, fungus diseases and parasitic growths affecting ornamental trees and plants; natural and artificial methods of combating them.

Class 733. Masses and baskets of flowers. Bouquets of natural flowers. Wax or other imitations of plants, leaves, or flowers. Florists' supplies.

GROUP 150—SEEDS, BULBS, CUTTINGS, AND PLANTS FOR PROPAGATING

Class 734. Collections of seeds of flowers, plants, and trees.

Class 735. Collections of bulbs for planting.

Class 736. Collections of cuttings or young plants for grafting. Nursery stock. Methods of packing and shipping.

Class 737. Flowers and plants grown for perfumes, extracts, and medicinal uses.

GROUP 151—THEORY OF HORTICULTURE AND HORTICULTURAL STATISTICS

Class 738. Charts or diagrams showing the comparative area occupied by fruit industries in States and countries. Charts or diagrams illustrating progress of organization among fruit growers for promotion of their industry by improved packing and marketing methods.

Class 739. Charts showing moisture requirements of different fruits supplied by rainfall or irrigation, or by both. Charts or diagrams showing the period of ripening of different fruits in any State and country. Charts and names and time of market suitability of varieties of each fruit commercially grown in any State or country. Charts showing rainfall, sunshine, and wind movements as affecting the character and yield of fruit.

Class 740. Graphic representations of the history and work of State and national horticultural societies, including publications thereof.

Class 741. Charts showing districts where frost protection will benefit growers.

Class 742. Treatises on international, national, and interstate fruit and fruit tree quarantine. Charts showing quarantine passports, tags, certificates, etc.

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Mines and Metallurgy

Department L

Group 152—Working of Mines, Ore Beds, and Stone Quarries

(Equipment and Processes)

Class 743. Equipment and methods of geological surveys, mining bureaus, societies and other institutions for the promotion of mining. Instruments and equipment for surface and underground surveys and examinations in connection with mining.

Class 744. Equipment and methods of prospecting for mineral veins and deposits, for building stones, coal, petroleum, natural gas, artesian waters, etc.

Class 745. Equipment and methods for sampling, assaying, analyzing or testing ores, metals, and other minerals and mineral products.

Class 746. Equipment and methods for drilling, cutting, or otherwise breaking down rock, ore, or other mineral in quarries, open cuts or mines; sinking shafts, opening galleries, drifts, or tunnels.

Class 747. Explosives and methods for storing, handling, thawing, placing, and firing the same, in mines, quarries, and deep wells; different classes of explosives, and methods and equipment for testing the same.

Class 748. Equipment for, and methods of, mining coal and other materials, and of timbering or otherwise securing mine shafts, drifts, rooms, stopes, etc., of tunnels, and of preventing surface subsidence over mines.

Class 749. Electric, compressed air, or other motors, for use in opening and operating mines and quarries, and for operating equipment for handling ores and other minerals. (See Classes 459 and 464.)

Class 750. Equipment and methods for the underground handling and transportation of ore, coal, etc., including haulage engines and rope, and locomotives using compressed air, electricity, gasoline, alcohol, etc. (See Class 460.)

Class 751. Machinery and appliances for draining mines and quarries. (See Class 462.)

Class 752. Equipment for and methods of ventilating mines.

Class 753. Equipment for and methods of lighting mines: oils, acetylene, electricity; safety lamps, testing and cleaning lamps; lamps and other appliances for testing mine gases.

Class 754. Equipment and methods for mine safety; safety appliances and methods, including signals, mine telephones, etc.; safety devices; methods of preventing dust explosions and other accidents; equipment and devices for fighting mine fires; mine laws, rules and regulations in behalf of safety in mines and quarries.

Class 755. Equipment and methods for mine rescue work, apparatus for artificial respiration, and other appliances; equipment and methods of resuscitating persons overcome by electric shock or by mine gases; equipment and

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methods in first aid to the injured in mines; equipment and methods in mine sanitation.

Class 756. Equipment and methods for handling and weighing mine products at mine, and for their above-surface transportation; tipples, screens, picking tables, etc.; railways, tramways, inclined planes, belt conveyors, loose cables, aerial cables, trolleys, etc.; appliances for loading and unloading wagons, boats, cars, etc.

Class 757. Machinery, appliances and methods, for working gases or minerals in liquid form or in solution, such as petroleum, natural gas, salt, sulphur, etc.; appliances and methods for capping and plugging gas and oil wells; pipe lines, storage facilities, etc.

Class 758. Equipment and methods used in quarrying stone and other materials requiring similar operations.

Class 759. Equipment and methods used in excavation, in open-pit and placer mining; steam shovels, dredges, and hydraulic mining equipment; special methods of storing and conveying water, etc. (See Classes 199 and 466.)

GROUP 153—MINERALS AND STONES, AND THEIR UTILIZATION

Class 760. Systematic collections in geology, general mineralogy, crystallography and paleontology. Collections illustrating the structure, modes of occurrence and origin of ore deposits, and other mineral deposits, with maps showing their distribution.

Class 761. Building materials: ornamental and building stones, rough hewn, sawed or polished; stones for highway construction and other purposes.

Class 762. Mechanical appliances and processes used in cutting, sawing, shaping and polishing marble, granite, slate, and other building stone.

Class 763. Equipment and processes for crushing, separating, washing, or drying rocks, clays, and other minerals.

Class 764. Building materials: Rocks which produce lime or cement. Processes and appliances used in the preparation of lime, cement, and plaster; their products and uses; artificial stone.

Class 765. Clays, fuller's earth, kaolin, feldspar, silica sand and rock, quartz and other substances used in the manufacture of earthenware and of building materials such as brick, paving brick, paving and roof tiles, pipe, terra cotta, glass, etc.; processes of utilization with specimens of their products; brick and tile making machinery.

Class 766. Grindstones, whetstones, pumice stones; other natural and artificial mineral abrasives, including carborundum, alundum, etc.; processes of their manufacture and their use.

Class 767. Refractory rocks, fire clays, and sands. Molding sands.

Class 768. Mica, asbestos, meerschaum, fluorspar, graphite (plumbago), gypsum, and other non-metallic minerals; processes of utilization with their products.

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Class 769. Gems and precious stones; lapidary work; artificial gem materials and their preparation.

Class 770. Common salt, nitrates, sulphates, borates, and other natural salts; methods of purification with their products.

Class 771. Mineral waters; artesian water conditions; utilization of water.

Class 772. Sulphur and pyrite: processes of utilization, with their products.

Class 773. Mineral and vegetable paints; dye stuffs, pigments, varnishes, and fillers; processes of preparation and their products; painting and glazing.

Class 774. Mineral fertilizers; natural and artificial sources of nitrogen; potash and phosphates; processes of preparation, with their products.

Class 775. Asphalt and asphaltic rocks; mineral bitumen and wax; amber, jet, etc.; processes for obtaining, treating, refining, and utilizing, and their products.

Class 776. Mineral fuels and luminants; peat, lignite, bituminous coal, anthracite; coal dust and compressed coal; petroleum and its products; mineral gases. Equipment for crushing, separating, and washing coal. Equipment and processes for briquetting or otherwise compressing fuels; for preparing coke and by-products; for storing, refining, and handling petroleum and natural gas products.

Class 777. Metallic ores of every kind, and products. Native metals.

Class 778. Artificial mineral products, their preparation and use.

GROUP 154—MINE MODELS, MAPS, PHOTOGRAPHS

Class 779. Maps, charts, photographs, and models illustrating geologic or topographical features, and their relation to mineral deposits, or the structure or mode of occurrence of mineral deposits. Mine models, working plans of mines; maps, photographs, lantern slides, moving pictures, etc., of mining operations, plants, camps, etc.

GROUP 155—METALLURGY

Class 780. Equipment, methods, and processes used, and products obtained; (a) in the handling of ores, such as hand sorting, conveying, elevating, weighing, sampling, etc.; (b) in the preparation of ores, such as breaking, crushing, pulverizing, grinding, washing, drying, etc.; (c) in the concentration, separation, and classification of ores, such as screens and trommels, jigs, sand and slime separators, slime settling and thickening devices, dry vanners, etc., water clarifiers, flotation processes with the aid of oil, gas, etc.; magnetic and electrostatic concentration, decrepitation, briquetting, sintering, etc. (See also Class 460.)

Class 781. Equipment, materials, processes, products, and by-products concerned in the treatment of the ores of iron for pig iron; equipment for smelting iron ores; blast furnaces and accessories; furnace construction; appliances used in operating furnaces and in handling and utilizing furnace products. Equipment for measuring furnace temperatures. Equipment and methods in the

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generation and use of gases, the preparation and use of liquid and solid fuels, generation, drying, and heating of blast; handling and use of slags; recovery, use of, and injuries from dust, fumes, etc. Varieties of pig iron.

Class 782. Equipment, methods, and products of the manufacture and use of refractory materials for metallurgical purposes (bricks, blocks, crucibles, retorts, etc.).

Class 783. Equipment, materials, processes, and products concerned in the manufacture of Bessemer, open hearth, crucible, and electrically refined steel; ingots, billets, blooms, slabs, steel castings, and other semi-finished material; re-heating furnaces, hammers, presses, and rolls used in shaping these. Various processes of manufacturing iron or steel directly from the ores, such as electric smelting and refining, etc.

Class 784. Equipment, materials, processes, and products concerned in the manufacture of special and alloy steels, including the preparation of manganese, chromium, nickel, vanadium, tungsten, and other metals used therein.

Class 785. Equipment, materials, processes, and products concerned in producing and refining wrought iron.

Class 786. Equipment, methods, and processes in the manufacture of iron and steel in finished commercial forms, such as merchant bar, hoop iron, band iron, bars for wire drawing, iron and steel wire; iron and steel of standard or special sections, armor plates, sheet iron and sheet steel for commercial building, metallurgical and other purposes; rails, axles, tires, wheels, large forgings, gun barrels, projectiles, ordnance equipment, other than naval, and its production.

Class 787. Equipment, processes, and products in the manufacture of welded and seamless metal pipes and tubes, other than cast iron pipes.

Class 788. Metal plates and screens, flanged, stamped, cut, decorated, and perforated, and their production. Production and use in metallurgical operations of wire cloth and screens.

Class 789. General foundry equipment. Foundry processes and products.

Class 790. Equipment, materials, and processes used in the metallurgy of copper, and products obtained. Treatment of ores, production of copper and copper alloys, bronze, and brass, in ingots, bars, sheets, wire, and other forms. Electrolytic and other processes used in refining copper, and in separating the accompanying gold, silver, and other substances.

Class 791. Equipment, materials, and processes used in the metallurgy of gold and silver, including amalgamation, hydrometallurgy, etc., and products obtained. Treatment of the ores: retorting amalgam, refining precipitates and electrolytic slimes; parting of gold and silver; melting, refining, stamping, and shipping bullion. Gold and silver in bars and other forms.

Class 792. Equipment, materials, and processes used in the metallurgy of lead, and products obtained; treatment of ores, including blast roasting, sintering, briquetting, smelting, etc., refining of lead bullion and the separation of the associated gold and silver. Production of lead in commercial forms, pig, bars,

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sheets, pipes, shot, and test lead; lead alloys; white lead and other lead pigments.

Class 793. Equipment, materials, and processes used in the metallurgy of zinc, cadmium, and mercury, and their alloys, zinc spelter, metallic zinc in bars and sheets, and zinc white; treatment of galvanizer's dross and zinc skimmings.

Class 794. Equipment, materials, and processes used in the metallurgy of aluminum, sodium, calcium, magnesium, and their alloys, and other metals or alloys produced or refined by electro-metallurgical processes and not otherwise provided for.

Class 795. Equipment, materials, and processes used in the metallurgy of arsenic, antimony, tin, nickel, platinum, and other metals not otherwise provided for, and their alloys, such as German silver and monel metal.

Class 796. Equipment for and processes of recovering and treating gold and silver and other metal waste in the working of these metals, and dust from refiners of precious metals. Appliances, processes, and products for exact rolling, beating, and grinding of gold, silver, aluminum, zinc, lead, tin, and other metals and alloys. Apparatus and processes for working platinum and other rare metals.

Class 797. Equipment, processes, and products of electricity applied to the production and refining of metals and other mineral products not otherwise classified; electroplating; electric and other methods of welding; electrotyping; and other applications of electricity in metallurgy not otherwise provided for.

Class 798. Apparatus and processes (other than electro-metallurgical) for coating metals with more precious, more malleable, or more durable metals; case hardening; malleableizing; galvanizing or sherardizing of metals, leading or nickel plating; tin plates (bright, dull, mottled, ornamental, printed) and tin plating.

Class 799. Appliances and processes for enameling metallic objects, and products, and other metal coating or protection not otherwise provided for.

GROUP 156—LITERATURE OF MINING AND METALLURGY

Class 800. Statistics and publications relative to geology, mineralogy, paleontology, topography, quarrying, mining, mine accidents, metallurgy, the manipulation of mineral products and the development of water resources.

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PART III OF APPENDIX

RULES GOVERNING THE SPACE OCCUPIED BY EXHIBITORS AND THE INSTALLATION AND MAINTENANCE OF EXHIBITS

1.—APPLICATION FOR SPACE.

There is no charge for exhibit space. No exhibitor is allowed to sublet any of the space allotted to him.

Applications for space must be made in writing on forms which will be furnished upon application to the Director of Exhibits.

Each application should state the width and breadth of the space desired, as a guide in allotting space, and the exhibitor should, after sending in his application, work out, to a scale of ¼ inch per foot, (a) a floor plan showing how his exhibit is to be arranged and of what the exhibit is composed; (b) a front elevation and such perspective views as may be necessary to give a clear idea of the platforms, cases, signs, and schemes of color and decoration proposed, to the end that the ensemble of exhibits when the installation is complete, may present a generally harmonious and impressive effect.

2.—FLOORING OF EXHIBIT SPACES.

In the same group of exhibits in any Department, platforms should be of the same height, 4¾ inches above the surface of the floor. The floor space of an exhibit should be laid level, and may be covered with carpets, linoleum, parquetry flooring, etc.; as may be approved by the Chief of the Department.

The Chief of any Department may authorize the entire omission of platforms in groups of exhibits, which, in his opinion, would be more appropriately installed without them.

The main floor of each Exhibit Palace will be of 2-inch planking, and the aisle floors will be of dressed flooring laid directly on this planking.

3.—DESIGNS OF BOOTHS.

Exhibitors will be permitted to construct booths and façades of their own design on their exhibit spaces, provided these do not obstruct the light of adjacent exhibits. The cornice line of such structures is fixed at a uniform height of 15 feet but ornamental parts and special fixtures may be raised to a greater height, with the approval of the Chief of the Department.

4.—COLUMNS OF BUILDINGS.

All columns or other portions of the Exhibit Palace standing within the space of an exhibitor or marking its outline or standing in the adjacent aisle must be

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decorated or treated in harmony with the booth or other decoration of the exhibit space.

5.—CONSTRUCTION LEVELS.

All prominent features of exhibit booth construction must be in general harmony with their surroundings in height and design. The following construction levels measured from the main floor have been adopted for the guidance of exhibitors in the design of booths and in the fitting up of exhibit spaces:

Platforms (when used)	4¾ inches
Base line of show cases	10 inches
Table tops	30 inches
Tops of railings	36 inches
Tops of table show cases	42 inches
Height of glass for standing show cases	8 ft. 3 inches
Tops of standing show cases	9 feet
Lower member of cornice of booths, and lower edges of large signs, etc	12 feet
Cornice line of high show cases, booths, and tops of large signs	15 feet
Cornice of second story booths and other structures showing two stories	28 feet

6.—RAILINGS.

Railings around exhibit spaces must be of uniform height. Railings, when used along aisles, must be placed within the floor space of the exhibit. Between exhibits the railings jointly built by exhibitors may be placed on the line separating the exhibit spaces.

All machinery in motion must be surrounded by substantial railings to prevent injury to visitors.

7.—COUNTERS AND TABLES.

Counters and tables shall be of the heights designated, except that in the Department of Horticulture they may be 3 feet in height for the display of fruits.

The Department of Mines and Metallurgy will fix the size and type of cases and cabinets for the display of geological specimens and minerals.

8.—SIGNS.

Signs, which may be of wood, metal, or glass, shall be moderate in size and neat in design, conforming in general with the sizes, and placed at the heights shown on the construction diagram.

No exhibit sign may project over the aisle spaces and none must be so placed as to mar the general effect.

Signs must be supported by suitable columns from the floor and in no case from the roof of the building. The Chief of the Department may authorize their support from the main columns of the building, with the approval of the Division

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of Works. Signs over an exhibit must be reasonably restricted in number. If the exhibitor desires, the name of the agent may be incorporated on a suitable sign within the exhibit.

After the jury has conferred an award, the fact may be indicated in a suitable way by a sign placed in the exhibit space.

9.—PARTITIONS.

Partitions between exhibits should be avoided as much as possible, and where a partition is used it should be, if possible, shared by both exhibitors occupying the adjacent spaces. In some cases it may be advisable that a partition which extends up to an aisle, be not more than 3 feet high for a distance of 6 feet from the aisle.

10.—OBJECTIONABLE STRUCTURES.

No exhibitor shall be permitted to erect any structure, or any part of an exhibit or appurtenance, which will injuriously affect the Exposition, or the rights of any other exhibitor.

11.—OPENINGS CUT IN FLOOR.

The installation of heavy articles, requiring special foundations, may begin as soon as the construction of the building will permit, but no openings may be cut in the floor of the building without a permit from the Director of Works obtained through the Chief of the Department. Application for this permit must indicate the design of special foundation which may be required.

The connections with sewer, gas, water, electric, and other mains, will be made according to the rules issued by the Director of Works.

12.—FABRICS USED IN EXHIBIT SPACES.

Silk signs and silk flags may be used.

13.—PERMITS TO ERECT BOOTHS.

When the plans of an exhibitor for booths, or other structures, on an exhibit space have been recommended by the Chief of the Department, and approved by the Director of Exhibits, a permit will be issued specifying exactly the space to be occupied by the exhibitor and authorizing the exhibitor, or his agent, to proceed with the construction necessary for the installation of the exhibit.

No construction may be begun, nor any material change made, upon any exhibit space except under the authority of such a permit.

14.—TRANSPORTATION OF EXHIBITS.

Shipping tags and labels will be furnished by the various Departments of the Division of Exhibits. They should be filled out according to the printed instructions thereon and attached to exhibits when ready for consignment. By *prepaying freight charges*, and sending original bill of lading (or, in the case of foreign shipments, the required shipping documents), together with notice of shipment properly filled out, to the Director of Exhibits, Panama-Pacific International Exposition, San Francisco, Cal., U. S. A., the exhibitor is relieved of all further attention to the transportation of his shipment, and it will be delivered at his exhibit space in the building to which it belongs on the Exposition Grounds. The

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Traffic Manager of the Exposition will furnish all necessary information relative to the transportation of exhibits.

15.—TRANSPORTATION CHARGES.

A published tariff of terminal charges is issued by the Traffic Manager of the Exposition for the information of exhibitors. This schedule will give the terminal charge for handling freight at San Francisco, and includes all ferry, hauling, and other handling necessary to move the shipment from the station, or dock, of the line which brings it to San Francisco, to the space allotted to the exhibitor.

16.—LOCAL HANDLING OF EXHIBITS.

The Exposition Traffic Manager's rules will make provision whereby exhibits originating in San Francisco may be transported to exhibit spaces by other means than through the Traffic Manager facilities.

17.—UNPACKING OF EXHIBITS.

The exhibitor must unpack and install his exhibit; and at the end of the Exposition must repack it, ready for turning over to the Traffic Manager at his exhibit space, for return shipment.

When exhibits are unpacked, empty cases must be promptly removed and conveyed to a place of storage, and shall not be used within the exhibit space. For economy of space, small cases may be enclosed in larger cases, and it will save much time and expense in repacking exhibits if packing cases are put together with screws instead of nails.

18.—HOURS OF OPENING AND CLOSING.

The main Exhibit Palaces will be opened to visitors at 9 A.M. each day except Sunday, and will close at sunset, except that the Art Palace will at stated times remain open after sunset. The Exposition may be open to exhibitors and their employees, who will have special tickets for their use, at 8 A.M., and they will be permitted to remain in the Exhibit Palaces for one hour after the hour of sunset, at which time all persons, except guards and special watchmen, will be required to leave the buildings.

19.—CLEANING OF EXHIBIT SPACES.

Exhibitors must have spaces cleaned within one hour after the close of the building at night. Sweepings and rubbish must be placed in the aisles, from which it will be removed by the Exposition janitor force. When a space is swept at any other time than above indicated, the sweepings must not be put into the aisle until the next regular period of cleaning. If an exhibitor neglects to care for his exhibit properly it will be cleaned by the Exposition janitor force, and the cost will be charged to the exhibitor. It is particularly required that exhibit spaces be properly cleaned at the hours specified by regulations.

20.—OBSTRUCTION OF AISLES. Lunches.

Exhibitors and their employees must not obstruct aisles or passage ways in any way during the hours when the Exhibit Palaces are open, nor may meals or lunches be eaten in the exhibit spaces or in any part of the building not designed for that purpose.

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21.—FIRES AND LIGHTS.

No fires shall be permitted in exhibit spaces, nor any lights other than those furnished by arrangement with the Exposition.

22.—MATERIAL FOR ACTIVE EXHIBITS.

Special permits must be obtained through the Chief of the Department, which will provide for bringing in raw material required by an exhibitor in illustrating any process of manufacture and for the removal of the product and the débris.

23.—PHOTOGRAPHS OF EXHIBITS.

All photographs relating to exhibits and their manufacture (not included in Photography Group No. 33 of the Department of Liberal Arts) may be shown in the Various Exhibit Palaces in portfolios, in cabinets, or upon walls or screens suitable for such displays. Photographs mounted on cards 22 x 28 inches will make a uniform display. Photographic exhibits may be framed.

Photographs of Exposition Buildings or of any part of the Exposition Grounds cannot be exhibited without authority of the Director of Concessions and Admissions.

24.—WATCHMEN.

Exposition guards will be employed about the grounds for the protection of life and property, but exhibitors may employ special watchmen to protect their exhibits. Any watchmen so employed must be approved by the Chief of the Department, and regularly appointed by the officer having charge of the watchman force.

25.—SPECIAL PROTECTION OF EXHIBITS.

For protection from dust, possible leaks, and any other cause, exhibitors may cover and protect their exhibits with coverings in any way they may see fit, during the hours when the Exhibit Palaces are closed.

26.—POWER, LIGHT, GAS, ETC.

Exhibitors requiring electric current for light, or power, gas, water, steam, or compressed air, must furnish connection to the nearest mains of the Exposition, subject to the Rules and Regulations of the Division of Works.

Gas, electric current, and water will be supplied in any part of the Grounds. Steam will be supplied only in and immediately adjacent to the Gas and Fuels Building just east of Machinery Palace; and compressed air will be supplied in the Machinery, Mines, and Transportation Palaces. Means of supplying steam for cooking or for moderate power, must be made by special arrangement.

27.—MACHINERY IN MOTION.

Exhibitors of machinery should arrange, whenever possible, to show machinery in motion and, if practicable, performing the function for which it was designated. Motor current will be furnished at special rates as an inducement to having machinery in motion.

Machines in motion must not be located nearer than 3 feet to any aisle or passage accessible to the public, and must be suitably protected by railings to prevent possible injury to any visitor. Exhibits in motion or processes shown must not create noise, dust, or objectionable odors.

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28.—FLOOR LOADS.

The floors of the Transportation and Machinery Palaces are designed for a load of 200 lbs. per square foot; those of the Liberal Arts and Mines Palaces for a load of 150 lbs. per square foot. The floors of the other Exhibit Palaces are designed for a load of 100 lbs. per square foot, except that the floor of the Horticultural Building is on the ground. Tracks of ample strength in the Transportation Palace are provided for railway exhibits.

29.—EXHIBITORS' AGENTS.

It will be considered that any person found in charge of an exhibit is the agent of the exhibitor, and is responsible in the absence of the exhibitor for carrying out, fully and promptly, any rules or orders of the Exposition Management.

30.—ADMISSIONS.

Exhibitors and their employees will be admitted to the Exposition Grounds only on presentation of their identification permits at the gates designated. These permits are issued by the Division of Concessions and Admissions only on written request of the Director of Exhibits or of the Chiefs of Exhibit Departments.

31.—DISTRIBUTION OF ADVERTISING MATTER.

Advertising matter or circulars must not be distributed in an Exhibit Palace save such as are sanctioned by the Chief of the Department. No exhibitor shall distribute advertising matter except from his own exhibit space, and then without annoyance to visitors. The distribution of advertising matter will not be permitted either from the aisles or from the entrance to the Exhibit Palaces.

32.—OTHER USES OF SPACE PROHIBITED.

No exhibitor will be permitted to place on exhibition, to offer for sale, to give as premiums, or to advertise any article not manufactured or regularly sold under his own name, except by special written consent of the Chief of the Department. No sale privilege will be permitted without the exhibitor having first made a contract therefor with the Director of Concessions and Admissions.

33.—MUSICAL AND OTHER SOUND-PRODUCING EXHIBITS.

Exhibits of sound-producing instruments and devices must be demonstrated in sound-proof rooms, similar to those installed in high-class piano and talking machine stores.

34.—EXPLOITATION OF EXHIBITS.

Exhibits are not to be conducted or operated in such a way as to be a nuisance or annoyance to visitors, or to other exhibitors.

Exhibitors, or their agents or employees, will not be permitted to make derogatory remarks or criticisms in a public way of another's exhibit.

Exploitation of exhibits, or of articles for sale within the Exhibit Palace, shall not be made above an ordinary tone of voice.

Noise-making and other objectionable souvenirs may not be given away or used, and the distribution of circulars, souvenirs, etc., shall not be made at the entrance of an Exhibit Palace or in its aisles.

The Exposition authorities reserve the right to suppress any objectionable

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exhibit or feature thereof, and to eject from the grounds any exhibitor, or exhibitors' agent or employee who may make himself manifestly objectionable to the Exposition management, to other exhibitors, or to visitors. This rule applies to the intervals before, during, and after the Exposition period.

35.—REMOVAL OF PACKAGES.

Upon the application of an exhibitor or his agent at the office of the Chief of the Department, a permit will be issued for the removal of packages belonging to the exhibitor, his agent, or employees. Packages will not be permitted to be taken through the gates without this permit.

36.—REMOVAL OF EXHIBITS.

No exhibit shall be removed in whole or part, during the Exposition period, without the recommendation of the Chief of the Department, and the written consent of the Director of Exhibits.

Immediately after the close of the Exposition, exhibitors shall remove their exhibits and the construction installed in connection therewith, such removal to be completed before March 15, 1916. Any exhibit or material not removed on or before April 1, 1916, will be considered as having been abandoned by the exhibitor and will be subject to removal at the cost of the exhibitor, or to such disposition by the Exposition authorities as may be deemed advisable.

37.—SALE OF EXHIBITS.

Exhibits may be sold to be delivered at the close of the Exposition. Orders may be taken at any time, to be filled from stock outside of the Exposition Grounds. If exhibitors wish to sell articles for delivery from their exhibit spaces during the Exposition period, arrangement must be made, approved by the Chief of the Department, with the Director of Exhibits and the Director of Concessions and Admissions. Articles for sale under this arrangement may be manufactured on the exhibit space by exhibits in operation.

Intending exhibitors must first become *accepted* exhibitors by receiving allotment of space from the Chief of the Department before being granted a selling privilege.

Special regulations apply to the sale of articles imported into the United States; such regulations are shaped in accord with general or special Federal laws governing foreign exhibits.

38.—AUTHORITY OF THE CHIEF OF THE DEPARTMENT.

Under the rules of the Exposition the Chiefs of the Exhibit Departments may, with the approval of the Director of Exhibits, promulgate special regulations governing the more minute details of the operation of the Exhibit Departments. The Chiefs of the Exhibit Departments are, therefore, in authority over the Exhibit Palaces and over the grounds on which the Exhibits of their various Departments are located, and their ruling shall govern in all matters connected therewith. An exhibitor may make an appeal *in writing* to the Director of Exhibits against the ruling of a Chief of an Exhibit Department, but while such an appeal is pending the ruling of the Chief of the Department will govern.

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PART IV OF APPENDIX

DIRECTIONS FOR PARTICIPANTS

ARTICLE I

SECTION 1. Under the proclamation of the President of the United States, signed February 2, 1912, and authorized by an Act of Congress, approved February 15, 1911, all nations and all peoples are invited to take part in this Exposition, and share in the celebration of the opening of the Panama Canal.

SECTION 2. The site of the Exposition is established upon the harbor of San Francisco, which, including an area from the adjoining Military Reservations of the United States Government, granted to the uses of the Exposition by an Act of Congress dated January 18, 1912, comprises 625 acres, with a frontage upon the Bay at Golden Gate of 15,000 feet.

In addition to this site, the general plan includes certain Exposition structures to be erected in Golden Gate Park and in Lincoln Park, and the erection of an Auditorium, in the center of the City.

SECTION 3. All administrative branches and Executive Divisions and Departments of the Exposition are under the authority of the President of the Corporation.

The members of the Executive Committee of the Corporation and the Comptroller of the Company constitute the Administrative Cabinet of the President.

The Executive Staff of the President consists of the following officers:

Director-in-Chief of Foreign and Domestic Participation;

Director of Division of Exhibits;

Director of Division of Exploitation;

Director of Division of Works;

Director of Division of Concessions and Admissions.

Under these officers, subordinate Departments for the supervision of Exhibits, of Construction, and of Maintenance are provided for, each Department having its individual head or chief.

Other Executive officers may, from time to time, be appointed by the President, subject to the approval of the Board of Directors.

ARTICLE II

SECTION 1. For the purposes of the orderly and systematic installation of exhibits and their review by the Jury of Awards, a Classification has been

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adopted divided into a number of Departments, each of which is again divided into groups and subdivided into classes. Under this Classification the Exposition will be constructed, the installation perfected, and the system of Awards conducted. In conformity therewith the following Exhibit Departments have been created:

Department A, Fine Arts;
Department B, Education;
Department C, Social Economy;
Department D, Liberal Arts;
Department E, Manufactures and Varied Industries;
Department F, Machinery;
Department G, Transportation;
Department H, Agriculture;
Department I, Live Stock;
Department K, Horticulture;
Department L, Mines and Metallurgy;
Department M., Discoveries and Maritime Development of the Pacific Area.

SECTION 2. In accordance with the above Classification, and bearing nomenclature identical with the Departments, exhibition palaces will be erected, ample in area, suitable in construction, and appropriate in design for the installation of such exhibit material as may be accepted by the Exposition in conformity with the Classification and these Rules and Regulations.

ARTICLE III

SECTION 1. The Director of the four Executive Divisions, and the Chiefs of the different Departments thereunder, may promulgate special rules and regulations governing the more minute and technical details of the operation of the different Departments.

SECTION 2. The Director of Exhibits shall have general charge of the installation of all exhibits, and the control and management of the same, subject to the authority of the Director-in-Chief acting for the President.

ARTICLE IV

SECTION 1. The General Classification is hereby made a part of these Rules and Regulations.

SECTION 2. The Exposition reserves the right to amend or correct the Classification at any time before the opening of the Exposition by giving thirty (30) days' public notice and by written notification to the Commissioners General or representatives of foreign countries and the American States and Territories.

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ARTICLE V

SECTION 1. The price of single admission shall be fifty (50) cents for individuals over twelve (12) years of age; twenty-five (25) cents for children between the ages of five (5) and twelve (12) inclusive; children under five (5) years of age shall be admitted free, if accompanied by an adult person.

SECTION 2. While the broadest construction will be placed upon the rights of exhibitors and their agents to free admission to the grounds for the purpose of caring for their respective exhibits, it is intended to restrict these courtesies within reasonable limitations.

ARTICLE VI

SECTION 1. No charge will be made for space allotted for exhibits.

SECTION 2. No charge will be made for space allotted for buildings of foreign governments or the State, Territorial, or District Governments of the United States.

SECTION 3. The main exhibition palaces will be opened to visitors at nine (9) o'clock A.M. each day and will be closed at the hour of sunset, except the Art Palace which, at stated times, may be open after sunset.

ARTICLE VII

SECTION 1. Qualified exhibitors will be those corporations, firms, or individuals who have produced the article, object, or material exhibited, but those who have importantly aided or coöperated in such production may be given proportionate consideration.

SECTION 2. This is a contemporaneous Exposition. Commercial articles manufactured prior to 1905 will not be reviewed for award. Historical material will be given no award value.

SECTION 3. The country where an exhibit is produced and not the citizenship of the exhibitor, will determine the nationality of the exhibit.

SECTION 4. All foreign nations participating in the Exposition will be recognized through an official representative, to be accredited to the President of the Panama–Pacific International Exposition through the Secretary of State of the United States or otherwise.

SECTION 5. Allotments of space, to exhibitors from countries whose governments have appointed official representatives to the Exposition, will be made by or through such representatives.

SECTION 6. While it is expected, as far as possible, to confine negotiations in the United States to the officials or representatives of the respective States, Territories, and Districts, the right is reserved by the Exposition, through its proper officers, to confer directly with individuals, firms, or corporations therein, especially in matters concerning Art and Commerce.

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ARTICLE VIII

SECTION 1. All applications for sites for buildings and out-door exhibits must be filed on or before June 1, 1914.

SECTION 2. Out-door horticultural and agricultural growing exhibits must be installed at such times before the opening of the Exposition as is necessary to insure their development within the proper season covered by the Exposition period; certain trees must, in accordance with this rule, be started not later than August 1, 1912.

SECTION 3. Applications for space for exhibits in the palaces of the Exposition must be filed on or before the respective dates following, to-wit:

(A) For Machinery and Mechanical Appliances intended for exhibition in operation, August 15, 1914.

(B) For Machinery and Mechanical Appliances not intended for exhibition in operation, October 1, 1914.

(C) For works of Art, natural products, and manufactured materials not herein expressly indicated, October 1, 1914.

(D) For special concessions to individuals, associations, or corporations, October 1, 1914.

SECTION 4. All applications for space must be in writing, addressed to the President of the Exposition, and should be presented on forms which will be furnished by the Exposition.

SECTION 5. Each application for space for exhibits must be accompanied by a sketch, drawn to a scale of one-fourth of an inch to a foot, showing the ground floor plan, the front elevation, and the general outline. These installation plans and schemes must receive the approval of the Chief of the Department in which the exhibit is to be located and the approval of the Director of Exhibits, and must conform to the general architectural design for the treatment of the interior of the building.

SECTION 6. Permits for space will not be transferable, and exhibitors will be confined to such exhibits as are specified in their application.

SECTION 7. No information will be furnished to any person or persons as to the number, character, or personnel of intending exhibitors, or as to applications for space, except upon the written order of the President previously obtained in each particular instance.

SECTION 8. The Exposition will not officially recognize any organization of Exhibitors, or of State or Foreign Commissioners, and will not negotiate upon or consider any questions affecting the operation of the Exposition or the interests of exhibitors that may be presented to the Exposition by such organizations or any officers or representatives thereof.

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ARTICLE IX

SECTION 1. All communications relating to the Exposition should be addressed to the President of the Panama-Pacific International Exposition, San Francisco, U. S. A.

SECTION 2. All packages containing exhibits must be addressed to the President of the Exposition.

SECTION 3. Direction labels for forwarding and shipping purposes will be furnished by the Exposition. The blank spaces on these labels must be filled out, as the label will indicate, so as to convey the following information:

(A) The Department in which the exhibit is to be installed.

(B) The Country, State, or Territory from which the package is consigned.

(C) The name and address of the exhibitor, and the total number of packages sent by such exhibitor.

SECTION 4. In boxing or casing any material intended for exhibition, screws should be employed in preference to nails or steel hoops, and packages should be addressed on two or more sides. Each package should contain a list of the material or articles it contains. Exhibitors will be authorized and permitted to unpack, assemble, install, maintain, and repack all exhibits in such manner as, to the exhibitor, may seem best, subject to the Rules and Regulations of the Exposition.

SECTION 5. Consignments intended for different buildings should be in separate packages, and not included in the same box, crate, or barrel.

SECTION 6. Freight and express charges and all dues or charges appertaining to the transportation of material belonging to individuals, such as exhibits, building material, concession material, supplies, etc., must be prepaid *at the point of shipment* and the goods delivered at the Exposition clear of all charges.

ARTICLE X

SECTION 1. If no authorized person is at hand to take charge of an exhibit within reasonable time after its arrival at the Exposition Buildings, said exhibit will be removed and stored at the cost and risk of whomsoever it may concern.

SECTION 2. The installation of heavy articles requiring foundation, may, by special arrangement with the Director of Works, commence as soon as the progress of the construction of the building will permit.

SECTION 3. No exhibits shall be removed in whole or in part until the close of the Exposition.

SECTION 4. Immediately after the close of the Exposition exhibitors shall remove their exhibits and construction, and complete such removal before March 15, 1916. Any exhibit or material not removed on April 1, 1916, will be considered to have been abandoned by the exhibitor and will be subject to removal at the cost of the exhibitor or to such disposition by the Exposition as may be deemed advisable.

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ARTICLE XI

SECTION 1. All show-cases, cabinets, shelving, counters, etc., required in the installation of an exhibit must be provided at the expense of the exhibitor, and all counter-shafts, pulleys, belting, wiring, etc., compressed air connections, and all water and sewerage connections will be paid for by the person applying for the same.

SECTION 2. All decorations and designs contemplated in connection with installation must conform to the Rules and Regulations promulgated by the Director of Exhibits, and receive the approval of the Chief of the Department interested.

SECTION 3. No exhibitor will be permitted to install an exhibit so as to obstruct the light of, or occasion any inconvenience to, or disadvantageously affect the display of, other exhibitors.

SECTION 4. The flooring of the Exposition palaces must not be cut or removed or their foundations disturbed, and no part of the construction of the buildings shall be employed for installation purposes, except upon the recommendation of the Director of Exhibits, approved by the Director of Works.

SECTION 5. Special rules regulating the height of platforms, partitions, rails, cases, cabinets, counters, and any special trophy or feature will be issued by the Chiefs of the different Departments, with the approval of the Director of Exhibits.

SECTION 6. All designs for the treatment of exhibition space must be in accordance with the foregoing limitations. The material used for covering counters, screens, partitions, or floors must be subject to the approval of the Director of Exhibits, upon the recommendation of the Chiefs of the different Departments, and must be in accordance with the general color scheme of the Director of Works.

SECTION 7. Special Rules in addition to, and not in conflict with, the general Rules of the Exposition may be promulgated by the different Departments, subject to the approval of the Director of Exhibits.

ARTICLE XII

SECTION 1. All articles which shall be imported from foreign countries for the sole purpose of exhibition at said Exposition, upon which there shall be a tariff, or customs duty, imposed by the United States Government, will be admitted free of payment of duty, customs fees, or charges under such regulations as the Secretary of the Treasury of the United States shall prescribe under an Act of Congress.

SECTION 2. It will be lawful at any time during the Exposition to sell for delivery at the close thereof, any goods or property imported for, and actually on exhibition in, the Exposition palaces or on the grounds, subject to such regulations for the security of the revenue and the collection of import duty as the Secre-

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tary of the Treasury of the United States shall prescribe. Such articles when sold or withdrawn for consumption in the United States will be subject to the duty imposed upon them by the revenue laws in force at the date of importation, and all penalties prescribed by the laws of the United States will be enforced against such articles and against the person who may be guilty of any illegal sale or withdrawal.

SECTION 3. Such provision will be made by the Government of the United Sates as will permit the transportation of foreign exhibits in bond direct to the Exposition grounds which will be designated as the United States Bonded Warehouse.

ARTICLE XIII

SECTION 1. The Exposition will provide for the establishment of a fully organized and equipped fire department, with all the necessary fire fighting apparatus.

While the Exposition will provide every possible protection for exhibits and for the property of exhibitors, it will not be responsible in any case for loss by fire, accident, vandalism, or theft, through which objects placed on exhibition may suffer, whatever may be the cause or the amount of the damage.

SECTION 2. Any object or article of a dangerous or detrimental character, or that is incompatible with the object or decorum of the Exposition or the comfort or safety of the public, will be refused admission to the grounds, or removed from any building or any part of the grounds upon the recommendation of the Director of Exhibits, approved by the Director-in-Chief.

SECTION 3. Articles that are in any way dangerous or offensive; also patent medicines, nostrums, and empirical preparations whose ingredients are concealed, will not be admitted to the Exposition. The Director of Exhibits, with the approval of the Director-in-Chief, has the authority to order the removal of any article that may be considered dangerous, detrimental to, or incompatible with, the purposes or welfare of the Exposition or the comfort and safety of the public.

SECTION 4. The Exposition will carry no insurance on exhibits, but favorable terms can be secured under which exhibitors may insure their own goods, chattels, construction, fixtures, and furniture in responsible companies.

ARTICLE XIV

SECTION 1. Advertisement by means of posters, prints, hand-bills, etc., will not be permitted within the Exposition grounds, except upon the recommendation of the Director of Works, approved by the President, and then to a restricted degree only.

SECTION 2. Exhibitors' business cards and brief descriptive circulars only may be conveniently placed within such exhibition space for distribution; but the right is reserved by the Chief of the Department, upon the approval of the

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Director of Exhibits, to restrict or discontinue that privilege whenever it is carried to excess or becomes an annoyance.

ARTICLE XV

SECTION 1. Exhibitors will be held responsible for the cleanliness of their exhibits and the space surrounding the same.

SECTION 2. All exhibits shall be in complete order each day at least thirty (30) minutes before the palaces are open to the public. No janitor work or other labor of this character will be permitted during the hours the palaces are open to the public. In case of failure on the part of any exhibitor to observe these rules, the Chief of the Department, with the approval of the Director of Exhibits, may adopt such means to enforce the same as circumstances may suggest.

ARTICLE XVI

SECTION 1. No crates, barrels, or packing cases will be permitted to remain upon the exhibition space after their contents have been removed, except upon the recommendation of the Chief of the Department where the exhibit is installed, approved by the Director of Exhibits.

SECTION 2. The Exposition Company will provide a storage warehouse for crates, barrels, and packing cases, under a reasonable schedule of charges based upon those levied by similar warehouses, which will be optional for exhibitors to use.

SECTION 3. Facilities for the conveyance of empty crates, barrels, or packing cases to storage places will be provided by the Exposition at a moderate price.

ARTICLE XVII

SECTION 1. No exhibit or object upon exhibition may be sketched, copied or reproduced in any way whatever without the permission of the exhibitor, approved by the Director of Exhibits.

ARTICLE XVIII

SECTION 1. Exhibitors desiring to contract for service of electricity, steam, compressed air, power for shafting, gas, or water, must make application to the Chief of the Department in which their exhibits are installed. No application for service will be entertained unless made upon a blank provided by the Director of Works, to whom, after the approval of the Chief of the Department has been secured, such application should be presented.

ARTICLE XIX

SECTION 1. Concessions may be granted for private exhibitions for which a charge for admission may be made; for restaurants, for places of amusement,

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for merchandise, and for other purposes not incompatible with the scope and dignity of the Exposition, under the terms and conditions to be determined upon by the proper authorities in each case.

ARTICLE XX

SECTION 1. An official catalogue of all exhibits will be published in English by the Exposition. Foreign governments and States and Territories of the United States, making a collective exhibit, may publish separate catalogues of their own exhibits when recommended by the Chief of the Department and approved by the Director-in-Chief.

SECTION 2. The sale of catalogues is reserved exclusively by the Exposition.

ARTICLE XXI

SECTION 1. The Exposition will organize, equip, and maintain an efficient police system for the protection of property and the preservation of peace and order.

SECTION 2. The Exposition will maintain a corps of janitors and scavengers, whose duty it will be properly to care for and clean the general roadways, approaches, paths, etc., of the Exposition, and the aisles within the Exposition palaces; but their duties and responsibilities will not extend to exhibit spaces, to subsidiary aisles, or to buildings of foreign or domestic countries or individuals.

SECTION 3. Exhibitors may employ watchmen and janitors of their choice to guard and care for their material during the hours the Exposition is open to the public; such watchmen will be subject to the rules governing employees of the Exposition, but no exhibitor will be permitted to employ attendants for service of this character, except upon the written consent of the Chief of the Department, approved by the Director of Exhibits.

SECTION 4. Each country, commission, organization, corporation or individual, by becoming an exhibitor, agrees to conform to all the Rules and Regulations established for the government and conduct of the Exposition.

ARTICLE XXII

AWARDS

The system of Awards will be competitive. . . . [Here followed the general rules of the Award System, to be found at the opening of Part V of Appendix.]

Special regulations governing the system of making Awards and determining the extent to which foreign countries may have representation on the juries, will be hereafter promulgated.

CHAS. C. MOORE,
President.

Attest:
RUDOLPH J. TAUSSIG,
Secretary.

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PART V OF APPENDIX

RULES GOVERNING THE SYSTEM OF AWARDS

GENERAL RULES

SECTION 1. The system of Awards will be competitive. The merit of exhibits, as determined by the Jury of Awards, will be manifested by the issuance of diplomas, which will be divided into six (6) classes: a grand prize, a medal of honor, a gold medal, a silver medal, a bronze medal, and an honorable mention (without medal).

SECTION 2. No exhibit can be excluded from competition for award except after a review of the reasons or motives by competent authorities hereafter to be provided, and subject to the approval of the Director-in-Chief.

SECTION 3. No exhibit or collection of exhibits will be reviewed for award except it is in its proper class and placed in the exhibition palace provided by the Exposition according to the Classification, and no jury or juror shall review an exhibit for award that is not installed in the palace provided by the Exposition for that particular exhibit, except that where on account of its size or character an exhibit is incompatible with, or dangerous to, the exhibition palace to which it is assigned by the Classification, it may by provision or order of the Chief of any Department, approved by the Director of Exhibits, be installed outside of its proper exhibition palace. Then the Jury of Award, upon the request of the Director-in-Chief, may review such exhibit.

SECTION 4. In a fixed ratio to the number of exhibits, but reserving to the citizens of the United States approximately fifty (50) per cent of the jury membership, the construction of the International Jury will be based upon a determined number of judges allotted to each group of the Classification, and upon the number and importance of the exhibits in such group.

SECTION 5. A chairman of the Group Jury will be elected by his colleagues in each group. This chairman will become, by right of his position, a member of the Department Jury, which Department Jury will in turn elect its chairman, who shall thereupon become a member of the Superior Jury.

SECTION 6. The honorary President of the Superior Jury will be the President of the Exposition. The President of the Superior Jury will be the Director-in-Chief of Foreign and Domestic Participation. There will be three Vice-Presidents appointed by the President of the Exposition. The First

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Vice-President will represent Europe; the Second Vice-President, South and Central America, and the Third Vice-President, the Orient.

SPECIAL RULES

1. The total number of jurors in the International Jury of Awards shall be approximately two per centum of the total number of exhibitors, but not in excess of that number, and each nation having fifty (50) exhibitors, or more, shall be entitled to representation on the Jury. The number of jurors for each art or industry and for each nationality represented, shall, as far as practicable, be proportional to the number of exhibitors and the importance of the exhibits.

2. Of this selected body of International jurors three graded juries will be constituted: 1st, the general organization of group juries; 2nd, department juries; 3d, a superior jury.

3. The United States members of the Group Juries shall be nominated by the Chiefs of Departments to which the respective groups belong. The members of the Group Juries representing foreign countries and the United States insular possessions shall be nominated by the Commissioners of such countries.

4. Nominations made by Chiefs of Departments shall be submitted to the Director of Exhibits, and, after his approval, shall be transmitted by him to the President of the Exposition for his consideration and appointment.

5. Jury nominations made by Commissioners of foreign countries shall be forwarded to the President of the Panama-Pacific International Exposition.

6. These nominations having been considered and confirmed by the designated officials, the appointments to the International Jury shall be made in accordance with Sections 4, 6 and 7 of Article XXII of the official Rules and Regulations of the Panama-Pacific International Exposition.

7. Each Group Jury shall choose its own officers, consisting of a Chairman, a Vice-Chairman and a Secretary.

8. The two first-named officers shall be members of the Jury; one shall be a citizen of the United States and the other shall be from a foreign country, represented in the Division of Exhibits. The Secretary need not be a member of the Jury and, if not a member, must be selected from a list of persons recommended by the Chief of the Department.

9. The Chief of each Department shall have general charge of the organization and direction of the Group Juries in his Department, for the purpose of securing the proper examination of all exhibits, and to see that the work laid out for the juries is conducted strictly in accordance with the official rules and regulations.

10. He shall be admitted to all sessions of these juries for the purpose of directing their attention to matters relating to the judging of exhibits.

11. The work of the Group Juries shall be begun May 3, 1915, and shall be completed within twenty days, except in the Department of Horticulture, which may require the attendance of jurors at an earlier and later date, and in the

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Department of Livestock, which will not be reviewed by jurors until beginning September 30, 1915.

12. Examinations or other work not completed by the Group Juries in the time specified herein, will be transferred to the Department Jury for completion.

13. Group Juries may, on the recommendation of the Chiefs of their respective Departments and with the approval of the Director of Exhibits, have authority to appoint, as expert assistants, one or more persons especially skilled in matters submitted for examination. These experts shall participate only in such special work as they are selected to perform and shall have no vote on the question of the merit of the exhibit under consideration.

14. Each Group Jury shall carefully examine all exhibits pertaining to the group to which it has been assigned. It shall also consider and pass upon the merits of the collaborators whose work may be conspicuous in the design, development or construction of the exhibits.

15. The jury shall prepare separate lists, presenting the names of such exhibitors as are out of competition; awards recommended to exhibitors in order of merit; awards recommended to collaborators in order of merit; a report giving an account of the most important objects exhibited and a general account of the group as a whole.

16. These papers shall be certified to the Chief of the Department to which the group belongs, and within five days after the receipt of said papers the Chief of the Department shall certify the same, with such recommendations as he may deem advisable, to the Department Jury.

17. In order to expedite the work, Group Juries may be divided into Committees for the examination of exhibits.

18. These Committees shall be governed by Rules 14, 15 and 16, above cited; when they have completed the work assigned them they shall report to the full jury, which shall review the findings after an inspection of all the exhibits in the group.

19. When the exigencies of the work require such procedure, and when recommended by a Chief of a Department and approved by the Director of Exhibits, two or more Group Juries may be combined.

20. In the case of temporary exhibitions and such other exhibits as are developed through a considerable period of time, or which for other reasons can not be governed by the time limits prescribed, the juries of such groups may continue in service throughout the entire period of the Exposition. Special juries may be formed for special periods.

21. At the close of each temporary exhibit or competition, the jury having the same in charge shall prepare a list of awards proposed in order of merit and shall certify the same to the Chief of the Department to which the exhibit pertains.

22. Special awards for such temporary exhibits or competitions may be provided by the Chief of the Department to which the exhibits belong, on the approval of the Director of Exhibits.

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23. Each Department Jury shall be composed of the Chairman and Vice-Chairman of each Group Jury of the respective Departments.

24. The Department Juries shall choose their own officers, consisting of a Chairman, one Vice-Chairman and a Secretary.

25. The Chairman and Vice-Chairman shall be, one a citizen of the United States, and the other a citizen of a foreign country represented in the Division of Exhibits.

26. The Secretary shall be selected by the members of the Jury from a list of persons recommended by the Chief of the Department.

27. Each Department Jury shall complete its organization and begin its work within five days after notice from the Chief of the Department.

28. The duties of these juries shall be to consider carefully and review the reports of the Group Juries; to harmonize any differences that may exist between the recommendations of the several Group Juries as to awards, and to adjust all awards recommended so that they will be consistent with the Rules and Regulations.

29. No more than five days may be devoted to this work, and when the awards recommended by the Group Juries have been adjusted, the Department Juries shall, through the Chiefs of their respective Departments, submit their findings to the Director of Exhibits, who shall, within five days after the receipt thereof, certify the same to the Superior Jury, including such work as may have been left incomplete by the Department Jury.

30. In addition to the officers of the Superior Jury provided for in the General Rules and Regulations of the Exposition, the Director of Exhibits shall be a member and Fourth Vice-President of the Superior Jury.

31. The President shall appoint as members of the Superior Jury the Commissioners General of the nine foreign countries occupying with exhibits the largest amounts of space in the exhibit palaces; the chairmen and vice-chairmen of the Department Juries; the Chiefs of the Exhibit Departments; a member of the United States National Commission and a member of the California State Commission.

32. Such other officers as may be required shall be elected by the Superior Jury from the members herein provided for.

33. A Chief of a Department shall represent only his own Department. The President of the Panama-Pacific International Exposition may appoint, from the United States membership of the Department Juries, such other members as may be necessary to give to each Exhibit Department of the Exposition a representative on the Superior Jury.

34. There shall also be a Secretary of the Superior Jury, who shall be selected by the members of the Jury from a list of persons recommended by the President of the Jury.

35. The Superior Jury shall determine finally and fully the awards to be made to exhibitors and collaborators in all cases that are formally presented for its consideration.

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36. Formal notification of the awards shall, in each case, be sent by the President of the Superior Jury to the exhibitors at the place of their respective exhibits.

37. If, for any reason, an award is not satisfactory to an exhibitor, he may file written notice to that effect with the President of the Superior Jury within three days after the date of the official notification of the award; and this notice shall be followed, within seven days after said date, by a written statement setting forth at length his views as to wherein the award is inconsistent or unjust.

38. In the adjustment of differences and in considering the recommendations of the Department Juries, the Superior Jury may provide for hearings of members of the Department Jury and of exhibitors, but in no case shall it be required to consider matters which have not been regularly presented as heretofore provided.

39. The Superior Jury shall convene on June 3, 1915, and shall complete its work within fifteen days, and, as soon as practicable thereafter, formal public announcement of the awards shall be made. A final complete list of the awards shall be published by the Panama-Pacific International Exposition, in accordance with the provisions of Sections 1, 3, and 7, Article XXII, of the Rules.

40. A Committee, consisting of the President and the four Vice-Presidents of the Superior Jury, shall continue the work of the Superior Jury as long as may be found necessary after that Jury has disbanded.

41. This Committee shall have charge of the preparation, collection, and publication of the official list of awards and shall make the necessary provisions for the proper distribution of the awards.

42. The deliberations of all juries shall be strictly secret.

43. The President of the Exposition, the Director-in-Chief, the Director of Exhibits, and the Chiefs of Departments shall have the privilege of attending any sessions of the several juries.

44. A majority of any jury shall, in all cases, render and confirm a decision.

45. The exhibits of persons serving as jurors in groups embracing their exhibits shall be classed as non-competitive and shall not be examined by the juries. This rule applies to managers, agents or others representing a company or corporation which is entered as an exhibitor. It does not, however, apply to the officers or representatives of Governments which are entered as exhibitors.

46. Each regular exhibitor may receive an award, although his exhibit be joined with that of others in a single installation.

47. Only one award shall be given to a collective exhibit, but the names of all the contributors to such collective exhibit may be entered on the diploma awarded, and each participant shall receive a copy.

48. If so desired by a group of exhibitors, a single award may be made to an individual representing such group.

49. An exhibit shall receive only one award in any group.

50. The same object, shown in several groups and adjudged by more than one jury, shall be entitled only to the highest award accorded to it.

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51. An exhibitor who has different objects entered as exhibits in different groups may be given an award in each group.

52. Exhibitors who desire to have their exhibits excluded from competition shall notify the Chief of Department as to their wishes when making application for space, giving their reasons at length for their request and objections to a competitive exhibit; and these papers shall be transmitted through the Director of Exhibits, to the Director-in-Chief acting for the President of the Panama-Pacific International Exposition, with such recommendations as may be deemed necessary. Exhibits thus exempted from competition shall not be examined by the juries, and shall not be entitled to official recognition in connection with the system of awards.

53. In addition to the awards prescribed for exhibitors, an award may also be made to the inventor, designer, or artisan, who, as a living collaborator, has, in the judgment of the jury, shown more than ordinary skill in connection with an exhibit. A collaborator is a person who has distinguished himself as the designer or producer of remarkable objects shown at the Exposition. He is not a person who has merely aided in the arrangement or installation of exhibits.

54. In order that this may be equitably accomplished, each exhibitor who has received an award may furnish the Chief of his respective Department, for transmission to the proper jury, a list of the names of his collaborators, arranged in order of merit, based on skill, ability, extent and value of work, and length of service. It will then remain for the Jury of Awards to determine whether the assistance rendered by the persons named in the manner described has been sufficient to entitle them, or any of them, to the rank of collaborator, and to name the award which may be conferred therefor.

55. Whenever it is applicable, a decimal scale system shall be used in judging the merits of exhibits, 100 representing perfection; and as a suggestion to juries, for instance in commercial exhibits, the following is offered:

55a. Value of the product, process, machine, or device as measured by its usefulness, its beneficent influence on mankind in its physical, mental, moral, and educational aspects.
Counting not to exceed 25.

55b. Skill and ingenuity displayed in the invention, construction, and application.
Counting not to exceed 25.

55c. Merits of the installation as to the ingenuity and taste displayed, the cost and value as an Exposition attraction.
Counting not to exceed 10.

55d. Magnitude of the business represented, as measured by the gross sales during the calendar year preceding the opening of the Exposition.
Counting not to exceed 10.

55e. Quality or cheapness, with reference to the possession by the exhibit of the highest possible quality, or the fact that the article is sold at so

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low a price with reference to its quality as to make it a valuable acquisition to the purchaser.

Counting not to exceed 10.

55f. For completion of installation within required time and for excellence of maintenance.

Counting not to exceed 10.

55g. Length of time the exhibitor has been in business as showing whether exhibit is a development of original invention or is an improvement on the work of some prior inventor.

Counting not to exceed 5.

55h. Number and character of awards received from former Expositions.

Counting not to exceed 5.

56. A special award consisting of a gold medal in each Department, may be recommended by the Department Jury, for the best, most complete and most attractive installation.

57. The following scale of markings shall be used in determining the final merits of an exhibit and fixing the award that should be made, 100 being used as indicating perfection:

57a. Exhibits receiving markings ranging from 60 to 74 inclusive—Bronze Medal.

57b. Exhibits receiving markings ranging from 75 to 84 inclusive—Silver Medal.

57c. Exhibits receiving markings ranging from 85 to 94 inclusive—Gold Medal.

57d. Exhibits receiving markings ranging from 95 to 100 inclusive—Medal of Honor.

57e. The exhibit receiving the highest marking—Grand Prize; and there shall be but one Grand Prize in each class.

57f. In some circumstances, and for special reasons, a Diploma of Honorable Mention, without a medal, may be awarded.

58. In judging Musical Instruments (Group 37) 150 shall represent perfection, the extra 50 points being added for TONE which must also be considered. The range of markings for awards in this particular group must be made accordingly.

59. The diplomas or certificates of award for exhibitors shall be signed by the President of the Panama-Pacific International Exposition, the Secretary of the Panama-Pacific International Exposition, the President of the Superior Jury, the Director of Exhibits and the Chief of the Department to which the exhibit pertains.

60. In the Department of Livestock the character of awards shall be indicated by a special ribbon, in accordance with rules to be made by the Chief of the Department. Exhibitors entered in this department will not receive medals.

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61. Special commemorative medals and diplomas may be issued to the officers of the Exposition, to United States, State and Foreign Commissioners, to the members of the International Jury of Awards, and to such other persons as may be deemed worthy of special recognition.

62. Jurors representing foreign exhibitors shall receive no compensation from the Exposition, nor any allowance for expenses. Jurors representing domestic exhibitors and resident within a radius of 30 miles from San Francisco shall be allowed no per diem, nor traveling expenses. All other domestic jurors shall be refunded their actual railroad fare on ordinary express trains, upon a round trip ticket basis, together with the charge for a lower Pullman berth and in addition they shall be allowed $5.00 per day for subsistence and gratuities while traveling in direct line to and from San Francisco; they shall be allowed in addition $5.00 per diem for each day their services are required and employed in Jury duty.

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PART VI OF APPENDIX

RULES OF THE DIVISION OF WORKS GOVERNING WRECKING BUILDINGS AND CLEARING GROUNDS

To all State and Foreign Governments,
Concessionaires and other Participants,
and Wrecking Contractors:

The following regulations, covering the removal of improvements, materials and apparatus of all kinds, will be in effect on December 5, 1915, and all those affected thereby should fully inform themselves concerning the requirements before Closing Day.

1. COMPLETION DATES: The land occupied by the Exposition and its various participants is owned by the United States Government, the Exposition Company, the City and County of San Francisco and various private parties.

The land not owned by the Exposition Company, but owned by private parties, is leased under various conditions of occupancy. The use of the land owned by the United States Government and the City and County of San Francisco is permitted by certain acts and ordinances, and these permits also have various conditions of occupancy. In several cases the Exposition Company will suffer damages for failure to have the land cleared of all buildings or structures on or before the expiration of the dates of the several leases and permits.

Each participant must obtain from the Director of Works the date on which his site must be cleared of all improvements. The Exposition Company will hold all participants responsible for failure to complete the clearing of the site on the date set, this having particular reference to those participants who occupy land held under private ownership. The clearing must commence immediately upon the close of the Exposition and be completed at the earliest date possible before the date set by the Director of Works for completion. All wrecking contractors should obtain completion dates for all work they undertake, in order to protect themselves and the participants for whom they are to perform such work from possible loss due to lease conditions under which the use of the land occupied by such participants was permitted.

2. PERMIT: All participants or wrecking contractors shall take out a permit from the Division of Works, and no work shall be done until this requirement has been complied with. Policies of Compensation Insurance, referred to in Clause No. 13 hereof, and Bond referred to in Clause No. 16 hereof, shall be

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deposited by participants or wrecking contractors as conditions precedent to the granting of this permit.

3. EXTENT OF CLEARING: All sites must be cleared of all buildings and other structures and left in a condition equivalent to that which existed at the time the site was taken over by the participant. All structures, or parts of structures, of a perishable nature, on or underneath the ground, shall be completely removed, with the exception of piles, and these shall be cut off two (2) feet below the surface of the ground as it existed at the time the site was taken over. Upon application, the Directors of Works will furnish a plot showing the original condition of the site.

4. CONTROL OF WORK: The Director of Works, may, at his discretion, from time to time, direct the order in which, and the points at which the work of clearing and wrecking shall be prosecuted, and may exercise such control over the execution of the work, at any time or place, as shall be required, in his opinion, to safeguard the interests of the Exposition Company. The work of clearing and wrecking insofar as it affects the Exposition Company, or for which the Exposition Company could be held responsible, shall be performed under the direction and supervision of the Director of Works, who shall have power to stop for modify any work which, in his opinion, is unsatisfactory, or which, in his opinion, would tend to bring the Exposition Company into difficulties.

5. ROADWAYS: Those performing the work of clearing and wrecking will be required to confine their operations within such space as will permit of the free use of such roadways as are required for the purposes of the Exposition, and where space outside of the limits of the participant's site is required, those doing the work shall make application to occupy such space. At no time shall roadways or driveways within the Exposition confines be torn up or destroyed, except upon the written permit of the Director of Works. All wreckers shall coöperate with he Exposition Company in maintaining roadways and driveways reasonably free from obstruction to traffic and shall obey, and cause all employees and their agents to obey, all traffic regulations which the Exposition Company may find necessary or desirable to put into effect.

6. SANITARY PROVISIONS: All participants, or the wrecking contractors, shall, at the beginning of the work of wrecking, provide the necessary and proper toilet conveniences for employees, which shall be in accordance with the directions of the Director of Works. These shall be maintained at all times during the progress of the work in a proper sanitary condition and to the full satisfaction of the Director of Works.

7. EXCAVATIONS: Material excavated shall be placed in positions to cause the least inconvenience to the handling of traffic and to the conduct of the general work of wrecking throughout the grounds. After the removal of any pipe or structures, all excavated material shall be back-filled and water-settled.

8. LAWS AND REGULATIONS: In all operations connected with the work of clearing and wrecking, all laws and regulations of the State of California, and of

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any other Governmental authority, and all rules and regulations of the Exposition Company applicable to the work, shall be respected and strictly complied with by those doing such work, who shall keep themselves fully informed in regard thereto. Wrecking contractors shall, at all times, observe and comply with, and cause any and all persons employed by them, or under them, to observe and comply with all such laws and regulations; and the participants shall save harmless the Exposition Company and its officers, employees and agents, against every claim and liability arising from, or based upon, the violation of any such law or regulation.

9. UTILITIES: Such electric energy as may be required for the conducting of wrecking operations, may be purchased from either the Exposition Company or the Pacific Gas and Electric Company. Similarly, water may be purchased from either the Exposition Company or the Spring Valley Water Company. Telephone service shall be secured from the local telephone company. Service connections and utility service obtained from the Exposition Company shall be paid for at the prices established by the Exposition Company. These prices may be obtained upon application to the Division of Works. Such service, however, is subject to discontinuance at any time by the Exposition Company upon twenty-four (24) hours' notice, and those using it shall have no claim against the Exposition Company for temporary shutdowns.

10. PROTECTION TO PERSONS AND PROPERTY:

(a) *Lights and Guards:* Participants, or their wrecking contractors, shall furnish all necessary guards, walks, and lights, and take all necessary precautions to prevent injury to persons or property.

(b) *Fuel:* If steam equipment is used on the work, such equipment shall be fitted for the use of oil fuel, and under no circumstances shall other fuel be used without the written permit of the Director of Works.

(c) *Inflammable Oils:* All gasoline torches and furnaces shall be kept locked in a room at night. Gasoline and all other inflammable materials shall be stored in lock boxes and buried with the tops flush with the ground surface and located at least thirty (30) feet from any building or structure. Inflammable oils for filling torches and furnaces shall be brought to a building only in approved Underwriter's one-gallon cans and not more than one (1) can shall be used at one time in any building.

(d) *Smoking:* No smoking will be permitted in or near the buildings which are being wrecked.

(e) *Explosives:* Dynamite, or other explosives, shall not be stored within three hundred (300) feet of any building. All dynamite, or other explosives, brought on the Exposition Grounds shall be immediately transferred to, and stored in a building constructed for the purpose and capable of being locked, and all participants and their wrecking contractors shall keep such building properly locked, except at such times as explosives are actually being transferred to or from such building. Painted signs, satisfactory to the Director of Works, shall

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be placed on such building by the participants or their contractors, announcing the character of the material stored therein and the danger incident thereto.

(f) *Fires:* Participants, or wrecking contractors, will not be allowed to burn any building as a means of disposal of the same, nor will they be allowed to dispose of refuse by burning, except in such quantities and at such locations as may be permitted by the Director of Works in writing.

11. BREAKING CONCRETE AND MASONRY: The use of explosives shall be limited in quantity to such extent as not to endanger surrounding structures. The breaking up of masses of concrete and masonry may be done by the process commonly known as "bulldozing," but in case holes are driven into masses of concrete or masonry for the purpose of making the action of the explosive more effective, the same shall be blanketed over with timbering or planks before exploding the charges, in order to prevent damage from flying fragments. When special restrictions become necessary, they shall be imposed by the Director of Works, and participants and their contractors shall obey, and shall carry on such operations in accordance with, and subject to such restrictions.

12. REMOVING OBSTRUCTIONS AND CLEANING UP: (a) *Removing Obstructions:* Participants and wrecking contractors shall, within twenty-four (24) hours after receiving notice from the Director of Works, proceed to remove from the premises and to satisfactory locations, all material, apparatus or accumulations of rubbish incident to the work, which, in the opinion of the Director of Works, cause undue obstruction to traffic, or undue fire risk, or which, for any other good and sufficient reason may be deemed necessary of removal.

(b) *Cleaning Up:* Participants, or their wrecking contractors, shall remove all débris and waste material which may have accumulated during the prosecution of the work, and upon completion shall leave the site in a clean and neat condition.

(c) *Dump:* Should participants, or their wrecking contractors, require it, the Exposition Company will provide a dump for waste material which is acceptable to the Director of Works, as filling. Such acceptable material will consist of sand, loam, clay, gravel, crushed rock, ashes, cinders or other such materials; and concrete, staff, plaster and sheet asphalt, and rock and oil mastic, provided any dimension does not exceed twenty-four (24) inches. Wood, paper, organic matter or other similar rubbish will not be considered as satisfactory filling material, nor will participants, or their wrecking contractors, be permitted to leave upon the ground such débris accumulating from wrecking operations.

13. INDEMNITY AND WORKMEN'S COMPENSATION: Participants and their wrecking contractors shall save harmless the Exposition Company from all liability for injuries to persons, employees or property in any way occasioned by them, their agents or employees, and from all damages, judgments, charges or other related expenses, arising or to arise from any act or omission of any of the said persons; and, further, participants shall require wrecking contractors to procure and maintain policies acceptable to the Exposition Company of accident insurance

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issued by the State Compensation Insurance Fund, or by other carriers, insuring their total liability under the Workmen's Compensation Insurance and Safety Act of the State of California.

14. PAYMENT OF DEBTS: Participants shall pay, or require their wrecking contractors to pay, when the same shall become due, all bills for teams, labor, material and equipment used in the prosecution of the wrecking operations; and participants and their wrecking contractors shall save harmless the Exposition Company against each and every claim and demand, and free of costs, attorneys' fees and judgments in any wise caused by the failure of participants or their wrecking contractors to pay for teams, teaming, labor or equipment furnished or used by them in the removal of the improvements.

15. COÖPERATION: Participants and their wrecking contractors shall so conduct the work of wrecking and clearing as not to interfere with the work of the Exposition Company, or others, nor injure their work, or workmen, and the said participants and their wrecking contractors shall promptly make good any injury to such work, workmen or contractor, caused by any act or omission.

16. BOND: Participants shall require their wrecking contractors to furnish a common law bond in a sufficient sum, expressly guaranteeing the participant and the Panama-Pacific International Exposition Company against each and every claim and demand, of whatsoever character made, or to be made, by any person or persons whatever, against the participant or the Panama-Pacific International Exposition Company, or persons in interest with them, for injuries to persons or property caused by the negligence of the wrecking contractor, or the sub-contractor, or the agents, servants or employees of the wrecking contractor; or for payments for teams, teaming, labor, material or equipment used by the wrecking contractor in the wrecking and clearing of the site, or in the prosecution of any work done or performed by, or at the instance of the wrecking contractor in the fulfillment of any wrecking contract.

17. STRUCTURES LEFT STANDING: No structure will be permitted to stay permanently upon any piece of ground within the Exposition site, unless the participant who owns the building or structure shall have obtained from the owner of the ground a written release relieving the Exposition Company from all obligations it has to the owner of the said property by the terms and stipulations of the lease under which the use of the property was obtained. In no event will any structure or its appurtenances be permitted to remain or encroach upon any public street or other public property.

18. ACCEPTANCES OF SITES: Upon the completion of the wrecking and clearing, and upon the completion of the work to be done in connection with the clearing of any site, the participant will, in writing, notify the Director of Works thereof. If, in the opinion of the Director of Works, the site shall have been satisfactorily cleared and the work shall have been fully completed in accordance with the requirements of the leases or permits under which the Exposition obtained the use of the land upon which the structure was erected, and after

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the participant shall have submitted sufficient evidence that all his claims and obligations of any sort whatever, and those of his wrecking contractor have been fully discharged, the Director of Works will, in writing, notify the participant that all the work has been completed to his full satisfaction, whereupon the Exposition Company will furnish a written release to the participant.

19. OTHER RULES AND REGULATIONS: There have been other rules and regulations issued by the Exposition Company in connection with the removal of materials and exhibits. These have to do with removal permits, clearances, customs, etc., and should be obtained by participants or their wrecking contractors and may be had upon application.

Approved:

CHARLES C. MOORE,
President.

Attest:
RUDOLPH J. TAUSSIG,
Secretary.

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